

[Detailed Description of the Invention]

[0001]

[Field of the Invention]

This invention relates to the distribution and the tracking system which provide the base material of electronic information in more detail from a network resource later on electronically using the bit of the lot on the electronic media which control use of the contents.

[0002]

[Description of the Prior Art]

The compact disk known well now saves information as a series of detailed pits and smooth fields. And about the even surface of an annulus ring board smooth on the other hand, it is a concentric circle or is directed in the track of a vine volume.

That recorded information draws the laser beam concentrated by the following along the track which is read in a compact disk, and of which record was done, and observing change in the luminosity of a laser beam as it encounter the detailed pit and the smooth field on a disk.

Adhesion and comparatively short wavelength of the laser with which emission makes it possible to be written to the large volume of information on the very small space of a recording medium. The compact disk was first introduced in the account for 43% of music sale recorded completely in the music which is recording the industry of 1982, and a place. According to the Industry union which is carrying out U.S. Recording, in the U.S., 300 million or more compact disks are independently sold about the retail price of 3 billion or more dollars every year.

Recording industry is effective in 12 moving a publicly known cardboard box little by little in an industrial as "long box for ten years of the last by which the compact disk in which 6 is recorded beforehand is package-ized in five inches of the diameter moved little by little. Beside conventional vinyl LP gas of a music memory storage display bottle, a long box is easily supported in a display bottle.

However, the bulk of a long box is made a more important thing out of the music memory storage which is not difficultly paid in a wallet and a walk since it is the shoplifter which hides the compact disk which has recorded it beforehand under the

coat.

While the long box which has package-ized technology for the compact disk currently recorded beforehand was effective a little as an anti-theft device, the account for a 25 million-pound packing useless article also builds every year the excess which has package-ized it.

U.S. record industrial combination is the intention which follows and abandons the announced long box in 1991.

In February, 1992, union announced it. And all the Plastic solids which started in April, 1993, in which a disk is taken out to a 5-inch commercial scene by the 5.5-inch package and which have been recorded beforehand.

When a Plastic solid records (CD) s or Digital Video, they which are manufactured are conveyed frequently and the disk (DVD) s even suitable for what is stored in a spindle. This is based on the frangible characteristic of a storage at least selectively. Each disk has a center hole, it is comparatively thin, and since it is comparatively light, the memory storage of the multiple disk on a spindle is useful.

Typically [a disk], in manufacture, it has a central post about the 2 feet base which becomes a spindle is long about 2 inches in thickness, and heavy as used. With the level of the automation of a disk manufacturing process, the disk could be stored or the spindle was continued several times before a print or packing. In an automatic process, a disk is only kept the most perfect the spindle between an inspection and a print step, and before the last packaging exactly.

the disk could have the closed circuit spindle between the steps of all manufactures arranged between molding, and being covered with the metal between spin, and between spin coating in more manual systems, an inspection -- and -- and coating and an inspection can be covered with metal between prints between a print and the last packaging.

However, when it is this kind in which a disk is taken, regardless of a disk, a title exists in a spindle and the number of times respectively maintained by the possibility of processing and theft, and confusion.

or [that it is possible for discernment of the title on the spindle to make an objection easily, without identifying what kind of print always in particular when a disk is in a

spindle if it puts in another way] -- or it can get confused.

It is important that capability is built by the disk later on in a disk in order to provide distribution operation, a quality control, and customer access information.

Since similarly a disk is what kind of length of time, when being maintained by the thing spindle, theft can be generated at any time. No matter what means [to pursue about whether removal which is not permitted / of the disk from a spindle / is prevented, or how much disk suited the spindle correctly / no] he may have, theft takes place regularly.

The distribution industry of the compact disk (hereinafter"CD") of multimedia is a progressing industry. CD multimedia is used in the application of an audio, video, audio-video, and a computer base. Since the duplicate recording for [many of] specific CD program which trying to be the same is often obtained from the source in which many differ, it is difficult for retail trade to identify other warehoused items and to distinguish them from those warehoused items later on.

Security is important concern relevant to sale of lease, a loan, or this kind of goods. An item like the compact disk program currently beforehand recorded on commerce is obtained from the factory, the memory storage, and the library of lease. It is important for retail trade to gain the product and to have a simple means to identify. for example, retail trade -- and the rented good goods in which the rented goods have to a customer poor return goods (for example, disk with which the customer was scratched) -- a change -- in order to make it desist from supposing like, what it opts for about whether they are the same goods that have returned to it is needed.

The change of CD which has inferior-goods CD obtained from other sources of a good state is a difficult problem in which retail trade carries out facing. The switched goods are the significant problems which can give the difficult high volume which detects the business related to compact disk industry, and this kind of invalid change. or [that the digital data contained in CD is damaged] -- or the way which is [for how with a fault or the retail trade to determine] easy, and can be trusted is required.

In spite of being detected by viewing with simple scratch or clear imperfection like a crack, this kind of inspection cannot accept a defect in digital data. Even if it is a case where a defect can be discovered during the regular speed playback of the whole CD,

The time at which much time needed to inspect all CDs that return to them out of the reason of the retail trade in which it deals with high volume to this kind of means is impractical on commerce.

Although the high-speed electronic formula scanner of inspecting the present digital recording exists, this kind of device cannot be effectively used to the limited availability of each retail trade for prohibition of cost, and this kind of technology. The electronic paper supervising system for supervising that the object by feeling comes out from a control space was used by the long box which has package-ized technology for controlling making a compact disk un-granting a permission by well-known, and independent. The marker formed from a hypertoncity magnetic material can be arranged package-izing a disk.

The separate detection panel which had the interval kept is arranged from it in the whole access point at other repositories for memory storage, a library, or the supervised compact disk. A panel contains the field coil and detector coil for producing the magnetic field of the whole access point which can detect the wayleave of the marker between panels.

Alarm which existence of a marker is detected and can be begun when trying to carry the compact disk by the magnetic field shown by the panel which people do not make suspend the marker on disk packing first.

Especially U.S. Pat. No. 4,710,754 watch indicates the multi-direction EAS marker designed for the compact dimension. The larger flux collector section to contiguity including at least two narrow fields where the marker indicated in the '754 patent defines a hypertoncity, low coercive force, and a change section and which generally comprises an even magnetic responder material. A change section is made to concentrate dramatically the parallel of a narrow change section which has a flux collector section on flux.

When passing by alternating field, the high concentration of the flux line of a change section produces high frequency harmonics. And existence of the marker of the field is detectable. A marker is deactivatable so that direction reversal is [that justification is possible and] possible, and it is status (i. e.) which consists of reactivatable two made conveniently by including respectively the material which can magnetize adjoining with a

change section.

When magnetized, a magnetizable material is carrying out bias of the adjoining change section to any management, and changing the response of the marker of the question field of magnetization alternation in it, or the field the fewest from an inversion. or [anyway, / that the material which a signal which distinction sticks promptly and is different can magnetize is magnetized] -- or it produces with the marker of the question field for which it depends without whether demagnetizing or not.

U.S. Pat. No. 4,967,185 watch indicates the multi-direction designed again for the compact dimension, and the status EAS marker which consists of two.

Sheet metal with which the continuous discontinuation of the material which lies on the same responder material of one sheet in the ' : the which indicates marker in which marker indicated contains the following in 185 patents'754 patent besides it is indicated, and in which remanently magnetization is possible is not carried out.

The response of the marker of alternating field within the limits can be changed into discernably by being selectively magnetized, before bringing a marker to the field, and demagnetizing the continuous sheet metal of the material in which remanently magnetization is possible. The marker indicated can be attached to package-izing a compact disk in the above-mentioned conventional technology.

However, when it is going to attach a conventional technology marker to the surface of a compact disk directly, a problem arises. Rotation of a compact disk needs to read information in a disk. And a disk follows, is hung intrinsically and must be set.

An EAS marker (therefore, directly applied to a compact disk) is laid in the disk which does not imbalancing a disk by the same mind as somehow or other as possible.

However, a conventional technology EAS marker is hung intrinsically and is not set. The conventional compact disk contains the following. : The status EAS marker which there is no inhibition and consists of the aperture and two suitable conventional technologies which must be maintained, and by which the centering was carried out contains the continuous sheet metal of a magnetic material. A marker cannot be attached to the surface of the compact disk which does not bar a disk aperture by the same mind if it does so.

U.S. Pat. No. 4,709,813 watch was recommended to the compact disk which conquered

that an EAS marker was [an opposite theft device] directly inapplicable to the surface of a compact disk. The compact disk which shows clearly that the The'813 patent continued the internal surface of the cathode where the separable number picking gear which has an EAS marker can be selectively locked by the "jewelry box" for. A compact disk is physically confined in box ** by the cathode. The permitted person of an employee or others can take a cathode using a release tool with a key at the time of payment.

If the EAS marker which is once carrying the cathode is removed from a compact disk, It cannot be overemphasized that use of the number picking gear needs for make ready time to connect a cathode to each compact disk cartridge, the addition step of a check-out process is added, and it leaves a compact disk without EAS protection.

it carries out permitting the examination of EAS protection which the retailer is playing in the compact disk by the customer of memory storage in front of the compact disk in danger once especially lack and a cathode are taken -- it purchases.

While it is environmentally steady, the new packing standard for the compact disk currently recorded beforehand worsens the problem of the compact disk factory gone up. - The Reason is in the following thing. A smaller package is simpler to hide and to carry from memory storage.

May compensate selectively because of the shoplifted threat which use of an electronic paper supervising system increases, and. To say nothing of removal which is not permitted [of the magnetic marker from a package] breaking the ability to detect of a supervising system, it cannot lay in the compact disk in which a well-known EAS marker does not have on the operativity of a disk directly. Use of the EAS marker interlocked with the number picking gear shows a handling problem, hearing a compact disk, before a customer's purchasing is the memory storage allowed, and it does not solve the problem of the physical security of a compact disk.

Especially the new compact optical information disk designed for the tamper-proof use which has an electronic paper supervising system by use of the EAS marker which may be directly applied to the surface of a compact disk follows, and provides a decisive advantage.

Thus, there are needs for the retail trade which maintains the security of those

electronic contents media conveniently and inexpensive.

[0003]

[Means for solving problem]

It provides in order to follow distribution of the contents to a system, a method, and the paper electronic target of manufacture. The electronic storage which has followed [1st] the identifier is incorporated on an electronic storage, and is stored in a database. Next, there is a package which has followed the identifier to up to the package in which an electronic storage is stored. It is sent among various substance which is using the tracking identifier on a package, and runs from it after an electronic storage.

Since various advertisements are affordable, an electronic storage is discriminable using an electronic storage, security, a base material, or the tracking identifier on the function relevant to retail.

A system contains the logic for downloading and updating the retailer-specific information of DVD which uses BCA information for intellectual processing.

When connecting with the Internet on which a user has a DVD application active type, logic detects an Internet connectivity which is moving, reads BCA information, and begins connection to a server.

And DVD application demands all the effective support information from a server for a retailer of DVD inserted now.

A server performs table search, in order to check a retailer who sold original DVD. And a server performs other table search, in order to determine download information. And a server passes downloaded information to application which is treating HTTP to protocol. Finally, a transaction is put up for a server data base which commemorates an event.

[0004]

[Mode for carrying out the invention]

The above-mentioned, and other objects, aspects and advantages, :system and a method :this invention contains the following in there, and a paper of manufacture for providing intellectual service for distribution of the contents later on based on this information electronically which are more nearly very understood from detailed explanation of a suitable working example of following this invention about Drawings.

[0005]

According to this invention, drawing 1 is an overall block diagram of a method of following electronic media. First, music, video, data or vision, amusement that can be caught, or what other kinds of information of contents of a form thing are generated in the operations 10 and 12.

[0006]

An electronic storage which has followed an identifier after that is incorporated on the electronic storage 22 at the time of manufacture like a burst cutting area (BCA). The electronic storage 22 needs to care about a point that a form of any electronic / vision storages which can store the contents can be taken. However, in the present explanation, a focus remains in one working example of an electronic circuit storage (DVD).

[0007]

As shown in drawing 1, an electronic storage can be repeated by replicator of the operation 14 after generation of the contents. A package which has followed an identifier to up to a package in which an electronic storage is stored is incorporated. This kind of tracking identifier is stored in a database from it.

[0008]

While in use, it can run from the consumers of the distributor to a retailer, and Steps 16, 18, and 20 after an electronic storage. An electronic storage is shipped among various substance (for example, a replicator, a distributor, a retailer, and consumers), and this tracking can be used by using the tracking identifier on the package 22. When the last user gets an electronic storage, an electronic storage can be identified using the tracking identifier on the electronic storage 22. Various functions can be produced by identifying an electronic storage so that it may become clear below.

[0009]

Before, an electronic storage is shipped among various substance (for example, a replicator, a distributor, a retailer, and consumers) like ****, and it can run after an electronic storage by using the tracking identifier on a package. DVD which is specifically a company which manufactures a replicator (or "presses)." A replicator builds a "glass master" of which received DLT (linearity tape of a number) and to which DVD set the foundation to the data on DLT from a contents developer (a studio like New Line).

Glass masters are set to the main DVDs in which all the repeated DVDs are made from it. A replicator adds a BCA number to a distributor or a retailer at then"packages/boxes"the DVD for each DVD as a part of multiplexing process, and distribution.

On the other hand, a distributor is a company which package-izes a multiplex title together together for distribution to a retailer. The larger warehoused item of the economies of scale [products-leveraging / economies of scale] which is not possible can be claimed that I hear that they maintain the direct relation and channel which have a retailer, and the value of a distributor has them by a smaller retailer. A retailer is a wholesaler (for example, the copy of 50 of Lost of Space and Ronin and the copy of 20 of your copy of 100) about multiple products. The manifold for as opposed to a retailer together distribution of" products which come from the studio where any differ, or are demanded for having go Mail-all (and distributor can"package).

Finally, a retailer is a company which sells a product to consumers directly. "An working example is included Brick-Blockbuster Video, Hollywood Video. and-mortar"stores like best Buy and Good Guys and other Retailers(es) also contain an online retailer (for example, DVDExpress, an Amazon). The company which points to com and other ecommerce(s).

Other groups have also joined the retail-trade opportunity (for example, NIMBYUSU which already provides multiplexing and distribution). It is the following logical step to provide a direct to-consumer on-line sale of a product. The replicator mentioned above needs to care about a distributor, NIMBYUSU/Technicolor, and the point that may be WAMO/Deluxe again. In large account like especially Blockbuster, a replicator can be directly shipped to a retailer.

The working example which has indicated the details about the tracking of working-example DVD according to a suitable working example is indicated now.

A contents owner (for example, studio) requests use of BCA on those DVDs from the 1st. Based on a request, a replicator (an working example contains WAMO, Panasonic, NIMBYUSU, Technicolor, a pioneer, and Crest) adds a peculiar BCA number to all DVDs. Adding a BCA number to each DVD needs special (YAG) laser. This may be a step of the last in a manufacturing process. It must be put into the BCA number for

specific DVD by the BCA database of InterActual from it. :DVD title in which the information over a track contains the following. i. Space loses in e.";

BCA # / range (i. e).

12345687890;

And Container which is Shipping(ing), which is Packaging(ing) and which is carrying out /Tracking (i. e).

The box 52221 to the Hollywood video.

[0010]

After a BCA number is added to DVD, DVD is packaging/boxed for the distribution to both, and A distributor, or Retailer. -- since the company of the many needs to care about the point which carries out multiple form, a replicator and a distributor may be 1 of the same thing.

moreover -- some retailers are large enough, although shipment is directly obtained from a replicator -- /-- it is important. Since 1 must follow a BCA number even to a actual transport container (box, in addition to this), the way whose /shipment DVD is packing and did is dramatically important. Therefore, tracking information must be added to a BCA database again.

[0011]

When package-ized DVD is sent out to a distributor from it, a distributor should also have a mechanism. i. In the position for the tracking based on a scanner, input devices, and those distribution to e, it is a monitoring device. For example, Deluxe can receive copy of "Lost of a"package"of 100,000 of Space." However, a distributor sends 10,000 to Retailer B to Retailer A and 5,000. A distributor, "distribution information of A and B to the system which must be able to input"retailer. Ideally, this becomes a joint-less/automatic process.

[0012]

Once DVD contacts a retailer (which from a replicator or a distributor), DVD can be divided further and can be distributed to a local memory unit/exit. In this kind of situation, a retailer must be able to automatically"track"distribution of these DVDs through to those memory storage. Time is covered and all the three entities(es) (a replicator, a distributor, and a retailer) can add tracking information to a BCA database.

For the complexity on the existing business system, and a dependence, a retail tracking concept is extended in a phase. : Probably key retail explains a replicator first. The distributor can bring the inch started in order that Retailers may accept capability in a track based on a local exit / memory storage from it.

[0013]

Utilization of the BCA discernment by an end consumer. When the last user gets an electronic storage like **** before, an electronic storage can be identified using the tracking identifier on an electronic storage.

Various functions can be performed by discernment of an electronic storage by this discernment. The function performed is governed after discernment of the computer which needs to mind and by which discernment is carried outside in an working example, and a software electronic storage.

For example, this invention can be practiced in the context of a personal computer (for example, workstation of an IBM-compatible personal computer, Apple Macintosh, or a Unix base). Typical hardware environment is expressed in drawing 3. And it shows the typical hardware organization of a workstation by a diagram according to the suitable working example which has the central processing unit 110 (for example, pass the system bath 112 a microprocessor which carries out interconnection and many of other equipment). The workstation shown in drawing 3, The following. included : -- Random. Access Memory(RAM)114 and Read. Only. Memory. (ROM) The 116 (I/O) bus 112 and the keyboard 124. the user interface adapter 122 for connecting, the mouse 126, the loudspeaker 128, the microphone 132, and/or other user interface apparatus (for example, the touch screen (not shown) to the bus 112.) The adapter 118 (e.) for connecting a peripheral device like the magnetic disk drive 120 with the communication adapter 134 for connecting a workstation with a communications network The display adapter 136 for connecting the bus 112 with g., a data processing network, and the display device 138. . A workstation makes permanent residence an operating system like Microsoft Windows NT typically on it. Or the Operating system (OS), the IBM OS/2 operating system, MAC OS, or the UNIX (registered trademark) operating system of Windows (registered trademark)/95. A person skilled in the art accepts that he can be performed by the platform and operating system except [these] this invention being

mentioned again.

[0014]

A suitable working example is written in using JAVA (registered trademark), C, and C++ language, and object oriented programming methodology is used for it. Object oriented programming (OOP) was increasingly used, in order to develop complex number application. Various software solutions need for conformity to use the convenience of OOP so that OOP may move to the direction of a software design and the mainstream of development. Needs exist for these principles of OOP applied to the message transmission interface of an electronic message system so that the OOP class and object of a lot for a message transmission interface can be provided.

[0015]

OOP is the process of developing the computer software which is using the object. Design including the step which analyzes a problem, and a system and build a program. An object is a software package including the related composition and procedure of data and a bundle.

* Since it includes data, a mass of composition, and procedure, it can be visualized as a component for which other addition structures, procedure, or data do not need to do the specific work and in which it can be self-sufficient. OOP follows and looks at a computer program as a mass of mainly independent component (called the object). And each causes specific work. In one component or a module, this concept that package-izes data, composition, and procedure together is called encapsulation.

Generally, an OOP component is a reusable software module which shows the interface which an object model is followed, and it is at the execution time and is accessed by the component integration architecture.

The component integration architecture is an architecture mechanism of the lot for which the software module of a different space which carried out processing processing can use each other capability or function.

This is made general by assuming the general component object model which builds the architecture. It is worthy to accept a difference between the object of an object and a class at this point. An object is a single example of the class of an object. And it is often exactly called the class. The object of there to many [the class of an object] which it

can see as a blueprint can be formed.

By OOP, a programmer can create the object which is a portion of other purposes. For example, it is said that the object which shows the piston engine has synthetic - relation which has the object which shows the piston.

In practice, :piston and the valve in which a piston engine contains the following, and many of other components;

The fact that a piston is an element of a piston engine can be displayed logically and semantically by two objects in OOP.

OOP also allows creation of an object that "depends from" another object. When there are others which show the piston engine which has got with ceramics the thing which shows two objects and a piston engine, and the piston, the relation between two objects is not composite it. A ceramic piston engine does not resign from a piston engine. ; in which it has many one limits from one kind of piston engine rather and which is only a piston engine -- the concept of the p composition-relation, encapsulation, succession, and polymorphism -- an object -- the real world -- it can display also by **** exactly. Our actual logical recognition is actually only restriction of determining the kind of what can become an object of the objectoriented(ed) software. :object in which some typical category is as follows can display physical substance (for example, the country of the car of a traffic flow simulation, the electric component of a circuit-design program, and an economics model or the airplane of an air traffic control system). The object can display the element of computer user environment (for example, a window, a menu, or a graphic object).

The object can display a warehoused item (for example, the staff file or table of city latitude and longitude).

[0016]

The object can display the data type (for example, time, an angle, and a complex number) of an user definition, or shows it to a plain.

About this immense capability of the object which it has in what kind of logically separable raw material and which it is and is displayed exactly. By OOP, a software development person can design and execute a computer program (is the actual reality physical substance, a process, a system, or a compound or not? namely, model of

various aspects).

Since an object can display anything, the software development person can create the object which can be used as a component of a larger software project than the future. New software which it has since the proved existing component which was made from existing ahead of the object of a new OOP software program reusable in 90% is comprised and the zero blank test of the || project is written in and done only 10% which remains. Since 90% came from the warehoused item of the reusable object already examined widely, the potential domains where an error may take place are 10% of programs. As a result, OOP makes it possible to create an object from the object created by the software development person before [other].

This process resembles the complex number machinery currently exactly built with the assembly and the subassembly. OOP technology follows and makes software engineering like hardware engineering in that software is built with the existing component. And it is obtained as an object at a developer. All that this adds to the quality in which software was improved like the speed which the development increases.

A programming language is beginning to support an OOP principle (for example, encapsulation, succession, polymorphism, and synthetic - relations) thoroughly. About the appearance of C++ language, the software development person of much business accepted OOP. C++ is a fixed OOP language which provides a machine executable code. C++ is suitable for the commercial application ** system programming project. For the moment, as for C++, the host of other OOP languages (for example, Smalltalk, Common Lisp Object System (CLOS), and Eiffel) seems to be the most popular choice in many OOP programmers. Moreover, OOP capability is applied to the computer programming language with more conventional popularity like Pascal.

[0017]

As follows, :objects which can summarize the convenience of object classes, and those corresponding classes classify a complicated program problem into many smaller simpler problems.

- * encapsulation carries out the data abstraction by the composition of data to the small independent object which can communicate with each.

Although the data of the object from accidental damage is protected by encapsulation, when other objects call the member function and composition of an object, it can act on [the / data and mutual].

Carrying out a subdivided classification and succession make it possible to lengthen and embellish the object by pulling out a new kind of object from the standard class to obtain in a system. thus -- if new capability does not begin from zero -- the inside of **** -- ** -- ** -- building -- having .

A different programmer mixes polymorphism and multiplex inheritance with the characteristic of a class which differs in many, and they make it possible to be in agreement and build the speciality objects which can still function by the related object of the way which can be predicted.

A class hierarchy and a control class provide the flexible mechanism for giving a cubic effect to an actual object, and the relation in them.

[0018]

The library of a reusable class is effective in many situations, however they also have some limit.

for example, : -- Complexity.

Or the class hierarchy for the related class can make it able to get confused extremely even about hundreds class in a complex system now. [many]

Control flow.

The program written in becomes a pan of a control flow with a cause using a class library (specific library which must control the interaction in all the objects with which i. e. and it are built). A programmer is a sake of which kind of object what kind of time on which it must decide about by which function it should call.

The duplicate of efforts.

Although a programmer can use and reuse many small pieces of a code by a class library, in a different way, each programmer summarizes those pieces. Two different programmers can use the same set of a class library, in order that an internal configuration, i. e., and a design may write in two programs which may completely differ according to hundreds small determination which carries out the same thing correctly, however each programmer makes along a way. Inevitably, the same piece of a code will

carry out the same thing of a way which is slightly different after all, and does not function together in a similar manner so that they may do so.

The class library is dramatically flexible.

More programmers have it forced so that a program may become more complicated to re-invent a basic feasible solution on a basic problem repeatedly. Comparatively new extension of a class library concept is having a framework of a class library. This framework comprises the significant set of a class and the design of a specific application domain which are committed together which catches the small-scale pattern and the main mechanisms which perform a more complicated and general necessary condition. They were first developed to the application programmer free to the user interface element of other standards for the miscellaneous business, window and dialog box related to displaying a menu, and a personal computer.

A framework also displays change of the way where a programmer considers an interaction. The code written in by the code which they write in, and others. In early stages of the day of procedural programming, in order that a programmer might do clear work, called the library provided by an operating system, however fundamentally, Executing [and] the program under the page from the beginning to the last, the programmer only caused a control flow. This was appropriate in order to print salary checks. And other problems of having the program which calculated the mathematical table or was exactly executed in the uni directional were solved.

Development of a graphical user interface began to turn this procedural programming. Inside-out arrangement. With these interfaces, a user (it is a straw mat from a program theory) can drive a program, and it decides about clear operation of when must be performed. With the event loop which supervises a mouse, a keyboard, and other sources of an external event, most individuals' computer software finishes this and calls today the part where the code of the programmer according to the operation which a user performs is appropriate. A programmer does not opt for the command which an event generates any longer.

Instead, a program is divided into the separate piece called in the time which cannot be predicted, and the command which cannot be predicted. By abandoning control of this way to a user, a developer builds the program which is very more easy to use.

Nevertheless, it the library provided by an operating system in order that the individual piece of the program written in may still finish clear work by a developer by an event loop. [call and] After being called, the programmer still has to determine a control flow within the limits of each Kata. Application-codes still"sits on the top of"the system.

Even an event loop program needs for a programmer to write in many codes which are not written in independently because of all the applications. The concept of an application framework carries an event loop concept in the distance more. Instead of dealing with all the foundations which build a basic menu, a window, and a dialog box, and make all the work to these things together, The programmer who is using the application framework starts with work application codes and a suitable basic user interface element.

Then, they are built from there by returning some general capability of a framework to have the specific capability of the meant application to a basis.

An application framework reduces the total amount of the code which a programmer has to write in from zero. However, since the framework is the general application which displays a window, base material copy & paste, and others truly, the programmer can also abandon control to a big degree rather than an event loop program allows. Only when a framework needs it, the framework which a code brings to cautions of almost all event processing and control flow and a programmer's code is called (e.). or [building an owner's data structure] -- in order [or] to process -- g.

a control flow detailed not only to the programmer who is writing in the framework program abandoning the control to a user (applied to an event loop program again -- as) but a framework at program within the limits -- also abandoning -- it carries out.

To an insulating program, in an interesting way, this method should have a custom code which allows creation of a complicated system rather than you function together. Be built repeatedly for the same problem.

Thus, a framework is a class of the bundle which stops the reusable design solution for the problem domain given as the principal part which is working together as explained. It contains the object which provides default operation typically (e.). : for which g. and a programmer use it by the following for a menu and a window -- other operations are exceeded in order that inheriting some of the default operations and a framework may

call application codes for appropriate time.

:protocol pair operation which has three main differences between a framework and a class library.

Intrinsically, a class library is a set of the operation which you can call, when those the operations of your program of each want you.

On the other hand, including a rule a programmer to be having set the framework in the rule which governs the way which provides not only operation but a protocol or, where operation can be combined assumes in order [versus what a framework provides] to have.

An override versus a call.

About a class library, the code in which a programmer generates an instance opposes and those members are called function.

An instance is generated for the object of the same way which has a framework, In order that calling may make sufficient advantage of a reusable design of a framework possible (i. the framework as e. and a class library is processed), a programmer writes in the code which it exceeds typically and is called by the framework. A framework manages a control flow in the object. Writing in a program contains the dividing response in a piece with more various software rather called by the framework than a different piece specifies the method which must function together.

Design pair implementation.

Although a programmer reuses only enforcement about a class library, about a framework, they reuse a design. A framework materializes how the related family of a program or piece of software functions. It displays the general design solution which can be suitable for various specific problems of the given domain. For example, even if a single framework is a case where the interface problem from which two different user interfaces built completely differ by the same framework may be solved, it can materialize the way which a user interface uses.

Thus, it is development of a framework for a solution over various problems and a programming task, and a design for software and significant reduction of a development effort can be finished. A suitable working example of this invention uses the hypertext Markup Language (HTML), in order to perform a document on the Internet with a

multiple-purpose safe communications protocol for a customer and transport media between Newco(es). HTTP or other protocols may be replaced by HTML which does not have an excessive experiment promptly.

:Hypertext Markup Language-2.0" by which information on these products is obtained in T. Berners-Lee, D., and RFC 1866 at Connolly (November, 1995);

And R. Fielding, H. Frystyk, T. Berners-Lee, J. Gettys and J. C. Mogul, HTTP||-HTTP / 1.1:HTTP working group Internet draft" (May 2, 1996). HTML is a simple data format used in order to build a hyper text document which is a portable type from one platform to another side.

A HTML document is an SGML document which has suitable general semantics to display information from a far-reaching domain.

HTML was in 1990 and afterwards under use by a global web global-area information initiative. HTML is the application of ISO Standard 8879.;

1986 the Data Processing Division texts and office system standard generalized markup languages (SGML).

A Web authoring tool built a power Web site application which he expands, contracts and follows to a server from a customer, and was restricted by the existing calculation resource in those capability to interoperate till the present.

It was the dominant technology in which HTML was used in development of a solution based on a web till these days. however, : in which HTML turned out to be unsuitable in the next field -- inferior performance;

Restricted user interface capabilities;

An atmospheric interference web page is only producible.;

Lack of interconnectivity which has existing application and data;

And Inability to normalize.

A Java language of a Sun microsystem improves performance on the :customer side which solves many client side problems by the following.;

Creation of power (real-time Web site application) is enabled.;

And Providing the capability to build a variety of user interface components.

About Java, the developer can build a strong user interface (UI) component.

Custom"widgets" (e.) g. -- a real-time stock-quotations display for indication and the

icon of an animation -- in addition, it can build. And client side performance is improved. Taking down appropriate processing to up to the customer for the improved performance unlike HTML, Java supports the concept of client side evaluation. Power and a real-time web page can be built. A power web page can be built by using an above-mentioned custom-made UI component again.

The Java language of Sun is industry. - which came out as recognized language for "programming. : which defines Internet."Sun Java as the following ", [simple] Dynamic [of the strong safe architecture neutrality which object-oriented distributed type translates, and a portable (high-performance) multithread] (technical term which responds), and general- decide a programming language.

Java supports programming to the Internet in a form of a Java applet independent of a platform. A Java applet is small special application which answers a Java application programming interface (API) of Sun which has allowed an add "interactive content" to web document a developer (e.). g. -- simple animation, a page ornament, and a basic game -- in addition .

An applet is performed within the limits of a browser compatible with Java (e.). g. (Netscape Navigator) A profiling code from a server to a customer. From a language standpoint, a core function of Java set is due to C++. It is said that Java document of Sun is C++ in which Java has the extension from C Objective [for more dynamic system resolution] as the principal part. ", In order to build the contents of power for the Internet and a personal computer and to give a developer and a web designer funds, Another technology of providing the same function as JAVA is provided by Microsoft and ActiveX Technologies.

ActiveX contains a tool for development animation, three-dimensional virtual reality, video, and other multimedia contents. The Internet standard is used for a tool, it functions on a multiple platform, and is supported by 100 or more companies.

A component which enables a group's building block to embed a part of software of a HyperText-Markup-Language (HTML) page at a developer currently quickly called ActiveX Controls (small).

With various programming languages containing Microsoft Visual C++ (Borland Delphi), ActiveX Controls. In the functioning Microsoft Visual Basic programming

system and a future (development tool of Microsoft for Java), A code which named "Jakarta. ActiveX Technologies(es) also contains ActiveX Server Framework. And a developer can build server application. A person skilled in the art recognizes it as it being replaced by JAVA without an experiment with too much ActiveX to execution this invention promptly in conventional technology.

When purchasing DVD in memory storage with a local system software consumer according to a suitable working example or purchasing the on-line by an online retailer, new DVD is applicable to consumer use. Consumers arrange DVD of a computer. And DVD begins the on-line which the Internet server application of the tight communication which has a session between users and DVD of DVD-ROM drives. Three BCA: (1) consumers in which the way case to be used contains the following start a browser, and in order to investigate information in a database, they go to the website using BCA information. A database is updated by the information collected from current users and those actual condition demographics again.

local application (it likes that it is PCFriendly) -- PCFriendly -- the Internet -- and, (2) automatically connected with the act on the Web server to look up at and/or BCA information, or local application (3) uses the information already included in a BCA number and the tailor experience locally based on this information.

The details relevant to various cases are mentioned later.

Case 1: Go to the website which investigates BCA.

Consumers connect with the special website which has the agent/component buried by the web page which can read BCA information about DVD of those drives. This embedded component reading which BCA passes to a Web server at this information together with other potential information (user ID, in addition to this). A Web server adjusts a response according to consumers based on the condition of giving a definition / marketing / profile, from it.

Case 2: Connect automatically local application (it is (like PCFriendly client software)) with a Web server (having no consumers' manual intervention), and it passes BCA information to a Web server.

Based on a BCA number and other potential information, a Web server passes the information over consumers' client software, or shows the information based on the

remote Internet based on these information / profile / retailer/and others.

Case 3: Position application (it likes that it is PCFriendly) reads BCA information. And the act to the information on BCA that a definition is given numbers itself. This case does not necessarily need an Internet connectivity. BCA is obtained using the ASPI code, in order to read the byte of 188 of information.

The working example of a case: Case 1:ActiveX control is designed using C++, and is embedded at a HTML page (use the OBJECT definition of the standard of HTML). The web page is stacking the load, and it is ActiveX control when that is right. ActiveX control accesses that a DVD-ROM drive acquires BCA data and any of other appropriate information at the subsidy of permission by consumers. The Web server which is using HTTP, or the ActiveX control then"posts"this information over the FTP power-on self-test method. A Web server is this information (for example, by seeing off consumers in peculiar URL). Right DVD which has the right BCA reads automatically in a DVD-ROM drive it to be only by being accessible in a certain case, and power-on self-test information and an act are analyzed.

Case 2: Local C++ application uses the remote agent technology developed by InterActual (to PCFriendly). Remote agent technology is automatically connected with a remote Web server (having no consumer interaction), and the BCA number which has any of other appropriate information in a Web server is passed. A remote agent also supports HTTP or the FTP power-on self-test method. A Web server is automatically read to this information, and analyzes power-on self-test information and an act.

The consumer request which purchases a specific product to the retailer by whom DVD of :original in which an working example contains the following was purchased is shipped automatically. In inside, this working example, a virtual POP/MDF display, and the base material of information are downloaded locally (or not locked), and are submitted to ** and consumers.

Case 3: The C++ application or activeX control with a local local web page accesses the BCA information on DVD.

Local application acts on this information based on this information.

(Information contains in BCA which must have sufficient information for application with the field in this mode local in an act).

: in which the present system contains the following -- the lookup produced as a result of the online database BCA. database with which it provides a real-time lookup, Specific information (for example, a consumer profile, a retailer, a base material position, and copyright infringement information) can be retrieved to application.

How to use BCA information.

When connecting with the server in which a retail distribution remote agent has BCA information, a server performs the real-time lookup on a BCA number, and determines the retailer for a replicator, a distributor, and/or the passing BCA number.

This information can use from it for various projects. and channel/banner/-- or [Updating(ing) programming of PCFriendly software] -- or it changes. Drawing 2 draws this operation as RemoteSync 238. In function block Unlock Server 230, a lock of specific property (for example, HTML, video, graphics, others) expressed is opened. A portion of different property or video is performed based on BCA information shown by function block Unlock Server 230.

Application also downloads new contents based on BCA information RemoteSync 238. BCA information can be used for an appropriate retailer using the RemoteTrak/BCATrak function 234 in order to turn Electronic Commerce Technology Division transaction or"buy-me"buttons.

The application according to a suitable working example can broadcast new information/update, as shown in the broadcast server function block 236 again. Logic is provided in order to open a lock again based on BCA information shown by the RemoteTrak Server function block 230 and/or to control access to a specific website.

This logic redirects a retailer who provides consumers to specific"storefront"of.

The track individual retail store performance related with specific retail store performance and a retailer with specific consumer on-line usage can be followed using information based on a BCA number. This supplies information to a local retailer, in order to determine the most successful opportunity to obtain user on-line. The information and Marketing Development Fund (MDF) like the imagination Point of Purchase (POP) use BCA information and the RemoteTrak Server function 230, in order to attract consumers later on.

Coupon.

Discount coupon (e.) etc. g., "cent off" coupons, a refundment coupon, a special offer coupon, etc., in Description of this application, it related to as "coupons collectively" -- being sold at many products especially retail consumer goods, a general cargo, foodstuffs, hardware, clothing, and a typically local food general cargo -- etc. -- || drug which becomes an integral part of the marketing strategy of a sake, and a discount store.

The existing product with a new product which came in order that a maker might be dependent on a coupon, refundment, a present certificate, etc. is carried forward, sale is increased, and demographic information is acquired about the consumers who buy a pattern. Consumers came to be dependent on the coupon or the certificate as technology for reducing cost.

The conventional technology which any are completely a low response rate and a fraud, or has couponing(ing) technology had some disadvantageous points. The coupon of conventional technology can be distributed using direct mailing which technology (it appears in a newspaper, a magazine, etc.) distributed with the goods of other business (e.). g. (laundry soap coupon package-ized by a soaping machine) -- or it distributed (e.) an original equipment manufacturer or OEM -- g. -- it has the same thing -- or classes (e.), such as goods and a computer g. (cent which "off" toward purchases next).

This kind of technology needs the quantity which a print and distribution carried out massively, and it has a low response rate historically (e.). g. (it is less than 2% of coupon distributed is regained typically). Thus, this kind of extensive distribution technique is not environment-friendly because of a large quantity of the paper which does not become if economical, and becomes useless.

It maintains, before consumers' doing some shopping, a catalog is made, and since [which it can have when finding an appropriate coupon] it is difficult, a part may have this kind of low response rate. Specific consumers are seen off in him or her by abandonment of him or her, and can have only those coupons held by consumers. Since many coupons have an expiration date, consumers may have to make the catalog of each coupon carefully, in order to guarantee that it is regained, before this kind of expiration date occurs.

This kind of technology requires time and it is hard to treat it. Usually, only those

consumers on a budget have sufficient time of making those use of an effective coupon into the maximum only to people who use couponing(ing) as a hobby. Busier and richer consumers cannot think that this kind of coupon control technique is economical. or [attracting this latter group of consumers] -- or the thing of a demography which has more desirable many can be displayed for the product maker which follows.

It has the appearance of the refund which comprises the two times or three even portions which are couponing(ing) promotion provided by some retail store (e.). g. -- the cash payment return coupon promotion (i. e., a gift certificate, etc.) with which it is not stingy, such as food general cargo memory storage chain ||, -- the same -- the thing from which the fraud is increasing coupon marketing and which was become for every problem.

The color picture copying machine can build the coupon which cannot be distinguished from an original copy. The consumers with insufficient consideration can get the refundment for the product which could use the coupon in which this kind that purchases a lot of items with a bargain price was copied, or was never purchased by injustice.

or [that some / where consideration is insufficient / retailers can conspire on the coupon which the broker who regains a large number unlawfully got] -- or it produced a maker object, furthermore in order to take.

The net price produced as a result which receives the consumers who have this kind of discount may be less than the wholesale price of a product maker so that a coupon discount or refundment can use for a promotion.

A product maker hopes to obtain sale by sufficient retail price in the future, and can provide this kind of sudden discount. When using the coupon in which the photocopy of [for consumers' multiple purchase of a retail item] was carried out, the whole plan for the product maker to be unable to get a desired repetition sale by sufficient retail price, and to couponing can be broken.

In addition, the small (effective data [as opposed to / though it is, who has regained this kind of coupon, or / a product maker]) conventional technology which has couponing(ing) technology surrendered. Consumer demographic data is dramatically precious to the product maker at the time of it being decided about which product is

gathered up in a matter that consumers will be targets (e.). It is a venue of a specific advertisement and is g. This kind of demographic data may be used in order to distribute a coupon more efficiently in the future. In addition, the actual condition demography of a matter with the effect in which a market price and this kind of information could be sold to, or the consumers or group of information (i. e., these days, frequency and the value of finance, or RFM) and consumers dealt in profits about buying a custom.

or [that various technology eliminates a fraud] -- or the more convenient technology to a better track consumer tried in order to reduce in order to distribute a coupon is provided with demographic data.

e The coupon system which Lapa, others, and United States patent No.5,353,218 indicate and to concentrate. Drawing 6 and others of De Lapa are illustrated most. De Lapa and others indicate the system for distributing the coupon which has the machine-readable code (barcode) include a customer and coupon discernment. A consumer code can be returned to a basis in general code used in the look-up table for coupon verification and information. The code which the whole can machine-read can be caught and can be uploaded in the central database for opting for a coupon and consumer discernment. the uploaded information -- a marketing object (in order to determine about which coupon to the next sends out to consumers) sake -- and/or, it can use for the refundment purpose.

Although the system and others of De Lapa tend to provide the distribution technique concentrated more, it depends for a system on the paper coupon still distributed to consumers.

Consumers can give up extensive mailing (i. e. " (direct mail)) of this kind which does not open them. Since the system is provided with the coupon, it depends for it on the consumers who are outputting the demographic information on a questionnaire or congener. Since the coupon and others of De Lapa are preprinted(ed), coupon dealings or profiling may be more common.

In De Lapa and others, there is no mechanism in order to catch the following demographic information. In addition, the addition mechanism can need to upload this kind of consumer information for the database centralized in order to catch consumer

demographic information so that consumer data may be caught on a memory storage level. Attached data processing hardware / software is required at a retail store, in order to process this kind of data, and it is acquired. Thus, he does not need to be [a retailer] willing for investing in this kind of plan first.

In retail trade, it may be important for it to check the consumers of the smallest possible time. when attached-processing time needs to process De Lapa and other coupons during customer check-out, there is a retailer -- also meeting -- it may not be and this kind received in this way of technology is adopted.

There is no mechanism provided in order that the individual who receives a coupon may guarantee that he is a target individual under the plan of De Lapa and others. When consumers move to a new address, the new seat crew member in an old address can receive, and can regain the coupon submitted to consumers. Thus, even if target tracking data is inaccurate, imperfection may be sufficient as it in whether it is good. The interactive advertisement system for an on-line terminal carries out Murphy (U.S. Pat. No. 5,305,195 watch) to having come out clearly on April 19, 1994. A series of remote terminals receive the video which is advertising the signal storable in an internal hard disk and by which ***** coding was carried out.

Advertising video is played. And consumers can choose the product which is using the terminal. In drawing 4, Colorado 7 and 45 to line 50 Murphy show clearly that it may be the coupon in which the printer was provided and by which printing selection was made. Murphy's equipment can solve some problems relevant to distributing the coupon of paper form. However, the Murphy system draws advertisement information and it is visible to a relation from collecting demographic information or distributing a coupon. Thus, it does not seem to have the ability for Murphy's equipment processing demographic information or reducing a coupon fraud. Murphy indicates his equipment to a university campus (demography restricted narrow consumer) sake.

[0019]

The date of issue of Kohorn (U.S. Pat. No. 5,128,752 watch) indicates the system and method of a generating and regaining [on July 7, 1992]-token chosen from television data sake. Product information and authentication data could be transmitted and were displayed on television and a home printer. The viewer can choose the coupon for a

print and can regain a coupon at a retail store.

* Von Kohorn indicates the technology for reducing a fraud, Colorado 7, and the line 16-38. However, as for operation, it seems to such technology that a coupon needs to confirm a very lawful thing on a retail level. And in an working example, it includes requesting a discernment trust certificate from consumers. It may be hard to treat this kind of technology to use of the retail establishment from which it may be intrusive and many coupons can be recovered at any given time.

[0020]

A consumer to whom it not appearing in a system and a specific target have a coupon of || specification which Kohorn (it is dependent on broadcasting) does not carry out. Rather, a coupon seems to be distributed to all the viewers provided with appropriate equipment. In drawing 6, Colorado 9, and the line 40-48, Von Kohorn is cautious of a point of indicating technology for recording marketing data from consumer information coded by coupon.

[0021]

A machine which has feedback as having come out on April 19, 1994 (U.S. Pat. No. 5,305,197 watch) and which is carrying out coupon exemption clarifies Axler.

A consumer kiosk displays an advertisement (LED scrolling), and since it can print a coupon in which a customer was chosen, it is put on retail establishment or congener.

An approachability estimation table detects a customer's existence near the equipment.

[0022]

The Axler device can solve some problems relevant to paper distribution of a coupon.

[0023]

However, an Axler device does not seem to be able to search any significant quantities of consumers whom demographic data other than a number and a kind of coupon printed.

About a keypad indicated by especially Axler within the limits of environment of inside of a shop, it may be difficult to go into this kind of consumer data.

Thus, it may be suitable for an Axler device searching consumer demographic data the optimal, and is not visible.

[0024]

I hear that a basic fault which has an Axler device does not give a customer with a retailer who it does not appear in a target or has a specific coupon in front by visit a motive, and he has it. Rather, the position of inside of a shop of an Axler device can make a consumer "targeting" a coupon easy. If it puts in another way, consumers can visit a coupon kiosk of Axler, in order to determine whether can make many product choice items of memory storage, and purchase is subordinate to a coupon discount or refundment. Thus, in order that a basic target to couponing may give a motive to purchase a product to -consumer who can produce an obstacle.

In addition, the kiosk of Axler can occupy a retail space of valuable business. A retail store (e.) g. -- since even 2 or 3 feet put on a shelf display and contain retail goods, supermarket || etc. may be extremely worthy. The product maker can flatten pay "rent" to which keeps an interval, in order to obtain a shelf with remarkable retail establishment of a form of refundment or charge of a promotion. Thus, a tendency may be sufficient as that of ***** at a kiosk in which retail establishment is couponing(ing) this kind of valuable space. That customer standby of a line accesses a kiosk may require time, and it may cause frustration. cost-prohibitive may be sufficient as providing an addition kiosk.

. In Accordance which has a suitable working example which it raises and has supports to DVD of commercial environment. A base material which service for which BCA is used redirects to a specific base material site based on table search using a BCA number shown by drawing 2 by a RemoteTrak/BCATrak server function block of the function block 234. Given track disk of logic is unusual again. And a defect from a manufacturing process shown with a function blocks RemoteTrak/BCATrakServer of 234.

other logic by RemoteTrak/BCATrak Server of the function block 234. [show and] Given track retailer - in order to follow the geographical support problem which is a specific base material problem and which is shown by RemoteTrak/BCATrak Server of the function block 234, In order to restrict access to a base material site based on the BCA information shown with a function, RemoteTrak/BCATrak Server 234 is blocked. Finally, an extended base material is the provided broadcasting update using a base material. And the driver based on BCA information as shown in a function blocks

Broadcast Server of 236.

[0025]

The security BCA information that a suitable working example is followed, As shown in the function block 238, in order to provide with DVDUnlock Server an authorized user with the video which has not required the lock based on BCA information, being combined with the game which has opened the lock of logic is possible. When combined with other data, as a movie and/or a game show RemoteTrak/BCATrak Server of the function block 234 when, BCA information, It has an unique identifier which can be pursued about whether the friend who pulls the trigger of other transactions for payment or other information was given.

This information Information to a retailer who pursues plagiarized DVD and shows by RemoteTrak/BCATrak Server of the function block 230, In order to report that the back to a distributor shown with the back and a function to a maker which shows by RemoteTrak/BCATrak Server of the function block 230 blocks RemoteTrak/BCATrak Server of 230. It can use.

[0026]

this capability -- a RemoteTrak/BCATrak server and a track -- a disk which had infringed on copyright to specific field/retailer who shows by the function block 230 which an invalid region code uses, [localize and] A RemoteTrak/BCATrak server which provides the capability to trace the back potentially to a retailer/distributor as shown in the function block 230.

[0027]

Overall logic logic of a /advertisement according to a suitable working example, It is the information on a tailor video base given as a part of BCA again (in the video 1 for a thing of a demography). [perform and] As shown in DVDUnlock Server (RemoteSync) of the function block 238 which performs the video 2, And to the tailor Internet / browser experience based on BCA information shown by RemoteTrak/BCATrak Server. of the function block 238 already, closed circuit/banner/-- programming of PCFriendly software within the limits, [of a base which trenches / changeable so that information and the contents may suit / BCA / , and was provided] Drawing 5 BCA which is advertised and is shown with a function based on a related target consumer profile has RemoteSync. of

238 blocked is a block diagram of user experience according to a suitable working example. The BCA number 503 was burned and was added to up to /DVD 505. When DVD is arranged at consumers' computer 510, software of InterActual reads a BCA number automatically and passes this information to a Web server.

Performing ISAPI extension 520 passed to a Web server, HTTP, or the file transfer protocol 515 should be used for BCA information. Information can be passed from local"client"application or applet or ActiveX-kind control can be downloaded from the website which passed this information to the Web server. It passes now that the HTTP power-on self-test command which is using the syntax shown is used for information. <http://www.pcfriendly.com/script/RemoteAgentUpgrade>.

com / script / RemoteAgentUpgrade.

DLL and bca=1234568790?userid=12345 68790? ...

* The present implementation of a Web server is ISAPI extension written in, and has a name of RemoteAgentUpgrade given in Visual C++ now.

DLL as an object for Microsoft Windows NT.

If a power-on self-test is received, a command and ISAPI extension will analyze immediately the information on a power-on self-test command and other pertinent information (for example, a user ID, in addition to this) that a BCA number is determined.

This information is recorded in the Web server log table 530 from it, and it is used in order to ask about the specific information of the Web server database 550 based on a post. This flexible database structure enables various use of a BCA number.

[0028]

The retailer working example according to a suitable working example is presented to an auxiliary device person skilled in the art, in order to manufacture and use this invention without an excessive experiment in conventional technology. Consumers insert DVD in those DVD-ROM drives. Consumers are submitted to the HTML page which has a"Buy-Me"button. :ActiveX control which consumers will connect to the specific web page containing the following immediately at the Internet if a Buy-Me button is clicked.

ActiveX control is automatically connected with the ISAPI extension which has the BCA

information for DVD inserted now. ActiveX control also tells ISAPI extension about consumers having tried the Electronic Commerce Technology Division transaction. ISAPI extension analyzes the information from a power-on self-test command, and connects it with a Web server database. Since ActiveX control told ISAPI extension about e-commerce transaction being tried, ISAPI extension is connected with a Web server database in order that DVD may determine the retailer purchased from the first. Since a Web server database contains the BCA look-up table 560 which has the three fields, This can be determined. : BCA number # The DVD title name retailer / memory storage Hollywood video (memory storage # 23) which disappears in 123458790 spaces

The retailer table 570 retailer who includes the information that it is specific for it, by using Retailer/Store information (appropriate Electronic Commerce Technology Division as which URL can be determined): A retailer / memory storage Hollywood video (memory storage # 23)

E-Commerce URL [http://www. retailer23. com/...](http://www.retailer23.com/)

Operation for the electronic commerce transaction for which drawing 6 uses BCA information according to the suitable working example which is a flow chart, and which carries out thing redirection for intellectual processing.

[0029]

When a user inserts DVD in a player, processing starts with 600. And electronic commerce operation is begun by the user action shown by the function block 610.

When a user chooses a purchase option by 610, logic can be begun in order to read BCA information. And this information is combined with other User Information from the server data base shown by the function block 620.

And a server performs table search, in order to check the retailer who sold DVD of the original shown by the function block 630. An original retailer becomes a target for purchase which the user began in the function block 610. And the Electronic Commerce Technology Division transaction has a course changed by the retailer who sold the disk shown by the function block 640. A transaction is put up for the server data base which commemorates the event relevant to re-direct operation at the last.

[0030]

Drawing 7 A and 7B are flow charts which have indicated the update for the detailed logic relevant to user connection, and DVD processing according to a suitable working example. As the user illustrated by the function block 700, when connecting with the Internet which has a DVD application active type, processing starts. A remote agent detects the Internet connectivity which is moving and connects application to the server for the processing beyond it shown by the function block 710.

And when obtaining the upgrade version without the input beyond it from the user who shows by the function block 720, a server connects application with appropriate version discernment, and upgrades remote application.

when a user is a user at first, a server acquires User Information from a user -- it uses (for example, inquiry operation shown by the data or the function block 730 from DVD).

And application collects the present DVD usage information, and as shown in the function block 740, it records information on a database. Finally, the present DVD information is sent to the user who shows by the function block 750. Processing is moved from it to the function block 752 of drawing 7 B which application determines about whether a broadcasting event is obtained. And when a user demands a broadcasting event, in the function block 754, a server passes information to the user of a HTTP format who shows by the function block 756.

A remote agent receives the thicket which is shown in the function block 760 and records User Information of a database eventually by a server, as the information from a server and the information for a specific DVD player show the function block 758.

[0031]

The flow of an overall advertisement.

Drawing 8 is a flow chart which has indicated the detailed logic for service of an overall advertisement according to a suitable working example. A flow chart shows the detailed logic which shows the advertisement (for example, banner) customized for specific distributor/retailer/and others and which carries out thing relation by a diagram.

[0032]

Drawing 8 shows the logic which shows the display of specific advertisement information based on the retailer/distributor which uses BCA information according to a suitable working example for intellectual processing. When a user inserts in a player

DVD which has BCA information, processing starts with 800. And advertising operation is begun by the user action shown by the function block 810. When a user connects with the web page on the Internet by 810, logic can be begun in order to read BCA information. And this information is combined with other User Information from the server data base shown by the function block 820. And a server performs table search, in order to check the retailer who sold DVD of the original shown by the function block 830.

Once an original retailer is checked, a server will perform other table search, in order to determine the advertisement banner shown by the function block 840. On the website 810 shown by the function block 850, the advertisement banner relevant to an original retailer is displayed from it. A transaction is put up for the server data base which commemorates the event relevant to the advertising operation 860 at the last.

[0033]

or [whether DVD volition which a distributor, a retailer, a computer or a maker, a direct salesperson, a contents developer, or all receive is distributed, or that it sells] -- or other hardwares from which anyone who hands gets profits explained the following in detail according to a suitable working example. A :super-blockbuster which includes these parts, for example, DVDExpress, an Amazon. com, best Buy, Deluxe, Technicolor/Ninbusl (IBM)

A gateway, Dell, a creative laboratory, line feed, Warner, Activision, electronic art, General Motors, and Ford Motor Co.

[0034]

Drawing 9 is a flow chart which shows a display of specific advertisement information based on the genre/kind of DVD which uses BCA information according to a suitable working example for intellectual processing. When a user inserts in a player DVD which has BCA information, processing starts with 900. And advertising operation is begun by a user action shown by the function block 910.

When a user connects with a web page on the Internet by 910, logic can be begun in order to read BCA information. And this information is combined with other User Information from a server data base shown by the function block 920. And a server performs a genre of DVD shown by table search and the function block 930 which

check a title. A server checked to a title and a genre is shown in the function block 940, and in order to determine an advertisement banner, it performs other table search. An advertisement banner is displayed on the website 910 relevant to a title which shows a genre of DVD by the function block 950 from it. A transaction is put up for a server data base which commemorates an event relevant to the advertising operation 960 at the last.

[0035]

Drawing 10 is a flow chart of download operation for downloading and updating retailer-specific information of DVD which uses BCA information according to a suitable working example for intellectual processing. When a user connects with the Internet which has a DVD application active type, processing starts with 1000. Logic detects an Internet connectivity which is moving, reads BCA information, and as shown in the function block 1010, it begins connection to a server. After logic begins connection to a server of 1010, as shown in the function block 1020, DVD application demands all the effective downloads from a server for a retailer of DVD inserted now. A server performs table search, in order to check a retailer who sold DVD of an original shown by the function block 1030. And a server performs other table search, in order to determine the download informatio shown by the function block 1040. If determined for a request which downloaded information once begins with application of the function block 1020, a server will pass downloaded information to application which is treating HTTP to protocol as shown in the function block 1050. A transaction is put up for a server data base which commemorates an event relevant to the download operation 1060 at the last.

[0036]

Drawing 11 is a flow chart of download operation for downloading and updating DVD titlespecific information which uses BCA information according to a suitable working example for intellectual processing. When a user connects with the Internet which has a DVD application active type, processing starts with 1100. Logic detects an Internet connectivity which is moving, reads BCA information, determines DVD application version information, and as shown in the function block 1110, it begins connection to a server. After logic begins connection to a server of 1110, as shown in the function block

1120, DVD application demands all the effective downloads from a server for a DVD title inserted now.

A server performs table search, in order to check a DVD title shown by the function block 1130. And a server performs other table search, in order to determine the download informatio shown by the function block 1140. If determined for a request which downloaded information once begins with application of the function block 1120, a server will pass downloaded information to application which is treating HTTP to protocal as shown in the function block 1150. A transaction is put up for a server data base which commemorates an event relevant to the download operation 1160 at the last.

[0037]

Drawing 12 is a flow chart of the made video presentation operation which uses BCA information according to a suitable working example for intellectual processing. When a user inserts DVD in a player, processing starts with 1200. And a video playback is begun by the user action shown by the function block 1210. When a user plays 1210 and chooses a video option, logic can be begun in order to read BCA information. And this information is combined with other User Information from the server data base shown by the function block 1220. A server performs table search, in order to check the retailer who sold DVD of the original shown by the function block 1230.

[0038]

And a server performs other table search in order to make right retailer video go to the play shown by the function block 1240. If determined for the request which retailer video information once begins with the application of the function block 1210, a server will begin to play back the right video for the retailer who sold the disk shown by the function block 1250. A transaction is put up for the server data base which finally commemorates the event relevant to the video which is looking at the operation operation 1260.

[0039]

Drawing 13 is a flow chart of the made video presentation operation which uses BCA information according to a suitable working example for intellectual processing. When a user inserts DVD in a player, processing starts with 1300. And a video playback is begun by the user action shown by the function block 1310. When a user plays 1310

and chooses a video option, logic can be begun in order to read BCA information. And this information is combined with other User Information of the server data base shown by the function block 1320, and is sent to a server. A server performs table search, in order to check a genre and/or a title, as shown in the function block 1330. And a server performs other table search in order to make a right genre and/or title video go to the play shown by the function block 1340.

A genre and/or title video information are determined by title shown by a server newcomer person playback and/or the function block 1350 of right video for application of the function block 1310, and a genre for a request which can be begun. A transaction is put up for a server data base which finally commemorates an event relevant to video which is looking at the operation operation 1360.

[0040]

Drawing 14 is a flow chart of logic relevant to display operation of made multimedia which uses BCA information according to a suitable working example for intellectual processing.

[0041]

When a user inserts DVD in a player, processing starts with 1400. And a view is begun by a user action shown by the function block 1410. When a user chooses a view option by 1410, logic can be begun in order to read BCA information shown by the function block 1420. DVD application performs local table search, in order to check a genre / title / retailer, as shown in the function block 1430. And DVD application performs other local table search in order to make a display in which an element of right multimedia is shown by the function block 1440 go. An element of multimedia once with application of the function block 1410. if [determined for a request which can be begun] DVD application begins to play back a right multimedia element for a genre / title / retailer, as shown in the function block 1450. A transaction is put up for a server data base which commemorates an event relevant to the display operation 1460 of multimedia at the last.

[0042]

Flow chart drawing 15 for security processing according to a suitable working example is a flow chart of security operation for restricting access to a specific website which

uses BCA information according to a suitable working example for intellectual processing.

[0043]

When a user inserts DVD in a player, processing starts with 1500. And security operation is begun by a user action shown by the function block 1510. When a user begins connection to a safe website by 1510, logic can be begun in order to read BCA information. And this information is combined with other User Information from a server data base shown by the function block 1520. And a server performs table search to check, when it is permission access to a safe website which a user shows by the function block 1530 based on a BCA number. A server restricts an entry to a website based on a BCA number, as it is shown in the function block 1540 whether it allows. A transaction is put up for a server data base which commemorates an event relevant to the security operation 1550 at the last.

[0044]

Drawing 16 is a flow chart of the unlocking operation for the electronic commerce transaction which uses BCA information according to a suitable working example for intellectual processing.

[0045]

When a user inserts DVD in a player, processing starts with 1600. And unlocking operation is begun by the user action shown by the function block 1610. When a user chooses play / attachment DVD option by 1610, logic can be begun in order to read BCA information. And this information is combined with other User Information from the server data base shown by the function block 1620. And a server performs table search, in order to check whether it is possible to play as DVD shows the function block 1630, or for a lock to be opened for installation. When a server determines that a user has to perform a purchase transaction first, a server promotes a thing user for what kind of required transaction information shown by the function block 1640.

. After a user completes the transaction of a function block, determine that the transaction generated 1640 or a server at former time. Or when a server determines that a transaction does not need to occur, a server performs unlocking operation shown by the function block 1650. A transaction is put up for the server data base which

commemorates the event relevant to the unlocking operation 1660 at the last.

[0046]

Drawing 17 is a flow chart of the unlocking operation for the electronic commerce transaction which uses BCA information according to a suitable working example for intellectual processing.

[0047]

When a user inserts DVD in a player, processing starts with 1700. And unlocking operation is begun by the user action shown by the function block 1710. When a user chooses play / attachment DVD option by 1710, logic can be begun in order to read BCA information. And this information is combined with other User Information from the server data base shown by the function block 1720. A server performs table search, in order to check User Information for DVD which is using the BCA information shown by the function block 1730. And a server performs table search, in order to check whether it is possible to play as DVD shows the function block 1740, or for a lock to be opened for installation.

When a server determines that a user has to perform a purchase transaction first, a server promotes a thing user for what kind of required transaction information shown by the function block 1750. . When 1750 were deterred, otherwise a server determined it after a user completed a transaction of a functional, generated a transaction at former time. Or when a server determines that a transaction does not need to occur, a server performs unlocking operation shown by the function block 1760. A transaction is put up for a server data base which commemorates an event relevant to the unlocking operation 1770 at the last.

[0048]

Drawing 18 is a flow chart of logging operation for pursuing copyright infringement. And BCA information for intellectual processing according to a suitable working example which misuses using in DVD.

[0049]

When a user inserts DVD in a player, processing starts with 1800. And logging operation is begun by the user action shown by the function block 1810. When a user user chooses play / attachment DVD option by 1810, logic can be begun in order to

read BCA information. And this information is combined with other User Information from the server data base shown by the function block 1820. or [that a server uses DVD which a user shows by the function block 1830 based on a BCA number] -- or when it can install, table search to check is performed.

And a server also makes use of DVD for a playback/installation usable or improper, as shown in the function block 1840. A transaction is put up for the server data base which commemorates the event relevant to the logging operation 1850 at the last. Logging information localizes the disk which had infringed on the copyright over a specific field, and it can use in order to trace DVD misused / plagiarized later on in invalid region code use to the retailer, the distributor, the maker, or the contents developer.

[0050]

Support service.

Operation for the support transaction for the intellectual processing to which drawing 19 follows the suitable working example which is a flow chart, and which carries out thing redirection. When a user inserts in a player DVD which has BCA information, processing starts with 1900. And the operation to redirect is begun by the user action shown by the function block 1910. When a user chooses a support option by 1910, logic can be begun in order to read BCA information. And this information is combined with other User Information from the server data base shown by the function block 1920. And a server performs table search, in order to check the supporting constitution for DVD of the original shown by the function block 1930. Supporting constitution becomes a target for the support request which the user began in the function block 1910. And a support transaction has a course changed by the supporting constitution relevant to DVD of the function block 1940. Operation 1950 by which a transaction is put up for the server data base which commemorates a related event at the end and to redirect.

[0051]

Drawing 20 is a flow chart of the display operation for the support transaction for the intellectual processing according to p player shown by the function block 2130. If the DVD-specific information for the support request which a server once begins by the user of the function block 2110 is determined, For example, it is used in order that a support problem peculiar to a retailer or a geographical support problem may be followed, as

DVDspecific information is shown in the function block 2140. A transaction is put up for the server by which the database which commemorates the event relevant to the display operation 2150 and the commemorated information is used for the last. And operation for the support transaction for the intellectual processing to which the generation report or geographical support problem drawing 22 which has followed the support problem peculiar to a retailer follows the suitable working example which is a flow chart, and which carries out thing redirection.

When a user inserts in a player DVD which has BCA information, processing starts with 2200. And the operation to redirect is begun by the user action shown by the function block 2210. When a user chooses a support option by 2210, logic can be begun in order to read BCA information. And this information is combined with other User Information from the server data base shown by the function block 2220. And a server performs table search, in order to check the supporting constitution for DVD of the original shown by the function block 2230.

Supporting constitution becomes a target for the support request which the user began in the function block 2210. And when allowed, a support transaction has a course changed by the supporting constitution relevant to DVD of the function block 2240.

On the other hand, a user is redirected to the position which is telling the user about not obtaining the supporting position. Operation 2250 by which a transaction is put up for the server data base which commemorates a related event at the end and to redirect.

[0052]

Drawing 23 is a flow chart of the application information which uses BCA information according to the broadcasting operation, the base material, and the suitable working example for downloading update for intellectual processing. When a user connects with the Internet which has a DVD application active type, processing starts with 2300. Logic detects the Internet connectivity which is moving, reads BCA information, determines DVD application version information, and as shown in the function block 2310, it begins connection to a server.

It is DVD, as DVD application demands all the broadcast information from a server and it is shown in the function block 2320, after logic begins connection to the server of 2310. A server performs table search, in order to check the broadcast information for

DVD shown by the function block 2330. If determined for the request which broadcast information once begins with the application of the function block 2320, a server will pass broadcast information to the application which is treating HTTP to protocol as shown in the function block 2340.

And DVD application acts on broadcast information by acting on information automatically, as it is shown in the function block 2350 whether information is submitted to a user. A transaction is put up for the server data base which commemorates the event relevant to the download operation 2360 at the last. Since it can be redirected to appropriate URL provided in order that the Visual C++ code according to an working example with consumers' preferred purchase request may ornament explanation of this invention further, Electronic Commerce Technology Division URL returns to ActiveX control from it.

[Mathematical formula 1]

* These functions are used to obtain BCA information

*

* DATE NAME REASON

* ---- --- -----

* 3/22/99 ITI Created

*

* NOTES:

*

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*****/

#include "stdafx.h"

#include "scsidefs.h"

#include "wnaspi32.h"

DWORD xReportBCA(LPBYTE pbData, WORD cbData);

DWORD AtapiSendCommand(LPBYTE pPacket, LPBYTE pBuffer, DWORD cbBuffer);

DWORD AtapiInit(int index);

void AtapiUninit();

DWORD xReportBCA(LPBYTE pbData, WORD cbData)

{

DWORD nReturn;

```

    UCHAR    Cdb[16];
    DWORD    bWindowsNT = FALSE;

    OSVERSIONINFO vi;
    vi.dwOSVersionInfoSize = sizeof(vi);
    if (GetVersionEx(&vi))
        bWindowsNT = (vi.dwPlatformId == VER_PLATFORM_WIN32_NT );

    if (bWindowsNT)
        return FALSE; // for now not implemented

    ZeroMemory(&Cdb, sizeof(Cdb));
    Cdb[0] = 0xAD;                // CMD_READ_DVD_STRUC;
    Cdb[7] = 0x03;                // Format
    Cdb[8] = HIBYTE(cbData); // sizeof AllocationLength
    Cdb[9] = LOBYTE(cbData); // sizeof AllocationLength
    Cdb[10] = 0;                // Agid

    nReturn = AtapiSendCommand(Cdb, pbData, cbData);
    return nReturn;
}

typedef DWORD (__cdecl *LPFNSENDASPI32COMMAND)(LPSRB);
typedef DWORD (__cdecl *LPFNGETASPI32SUPPORTINFO)(VOID);
BOOL AspiInquiryCmd(BYTE *pbInq, WORD cbData);

// statics yuk
static BYTE AdapterCount = 0;
static BYTE AdapterID = 0;
static BYTE TargetID = 0;
LPFNSENDASPI32COMMAND g_fnSendASPI32Command = NULL;
LPFNGETASPI32SUPPORTINFO g_fnGetASPI32SupportInfo = NULL;
HINSTANCE g_hWNASPI = NULL;

```



```

DWORD AtapiInit(int index)
{
    if (g_fnSendASPI32Command && g_fnGetASPI32SupportInfo)
        return TRUE;

    if (!(g_hWNASPI = LoadLibrary("WNASPI32.DLL")))
        return FALSE;

    if (NULL == (g_fnSendASPI32Command = (LPFNSENDASPI32COMMAND)
GetProcAddress(g_hWNASPI, "SendASPI32Command")))
        return FALSE;

    if (NULL == (g_fnGetASPI32SupportInfo = (LPFNGETASPI32SUPPORTINFO)
GetProcAddress(g_hWNASPI, "GetASPI32SupportInfo")))
        return FALSE;

    DWORD ASPI32Status = (*g_fnGetASPI32SupportInfo)();
    AdapterCount = (LOBYTE(LOWORD(ASPI32Status)));

    if ((AdapterCount == 0) || (HIBYTE(LOWORD(ASPI32Status)) != SS_COMP))
        return FALSE;

    BYTE pbInq[LEN_INQUIRY_DATA+1];
    for (BYTE aid = 0; aid < AdapterCount; aid++)
        for (BYTE tid = 0; tid < MAX_TARGET; tid++){
            AdapterID = aid;
            TargetID = tid;
            if (AspiInquiryCmd(pbInq, LEN_INQUIRY_DATA)){
                if (DTYPE_CROM == pbInq[0]){
                    if(index-- == 0){
                        return TRUE;
                    }
                }
            }
        }
}

```



```

    }
}

return FALSE;
}

```

```

void AtapiUninit()
{
    if (g_hWNASPI){
        FreeLibrary(g_hWNASPI);
        g_fnSendASPI32Command = NULL;
        g_fnGetASPI32SupportInfo = NULL;
        g_hWNASPI = NULL;
    }
}

```

```

DWORD AtapiSendCommand(BYTE *pCdb, BYTE *pbData, DWORD cbData )
{
    PSRB_ExecSCSICmd pSrb =
(PSRB_ExecSCSICmd)malloc(sizeof(SRB_ExecSCSICmd));
    if (pSrb == NULL)
return FALSE;
    memset(pSrb, 0, sizeof(SRB_ExecSCSICmd));

    // SendCommand
    pSrb->SRB_Cmd    = SC_EXEC_SCSI_CMD;
    pSrb->SRB_Status  = 0xff;
    pSrb->SRB_HaId    = AdapterID;
    if ((pCdb[0] == 0xA3) && (cbData != 0))
        pSrb->SRB_Flags    = SRB_DIR_OUT;
    else if(pCdb[0] == 0x43)

```



```

    pSrb->SRB_Flags    = SRB_DIR_IN;
else
    pSrb->SRB_Flags    = SRB_DIR_SCSI;
pSrb->SRB_Target      = TargetID;
pSrb->SRB_BufLen      = (DWORD)cbData;
pSrb->SRB_BufPointer  = pbData;
pSrb->SRB_SenseLen    = SENSE_LEN;
pSrb->SRB_CDBLen      = LEN_ATAPI_PACKET;
pSrb->SRB_HaStat      = 0xff;
pSrb->SRB_TargStat    = 0xff;
memcpy(pSrb->CDBByte, pCdb, LEN_ATAPI_PACKET);

DWORD ASPI32Status = (*g_fnSendASPI32Command)(pSrb);
DWORD timeout = 600;
while ((pSrb->SRB_Status == SS_PENDING) && (timeout > 0)){
    Sleep(10);
    timeout--;
}

if (pSrb->SRB_Status == SS_COMP){
    free(pSrb);
    return TRUE;
}

if ((pSrb->SRB_Status==SS_ERR) && (pSrb->SRB_TargStat==STATUS_CHKCOND)) {
}
free(pSrb);
return FALSE;
}

BOOL AspiInquiryCmd(BYTE *pbInq, WORD cbData)
{
    BYTE      Cdb[LEN_ATAPI_PACKET];

```



```
memset(Cdb, 0, LEN_ATAPI_PACKET);
```

```
Cdb[0] = SCSI_INQUIRY;
```

```
Cdb[4] = LEN_INQUIRY_DATA;
```

```
    PSRB_ExecSCSICmd pSrb =  
(PSRB_ExecSCSICmd)malloc(sizeof(SRB_ExecSCSICmd));
```

```
    if (pSrb == NULL)
```

```
        return FALSE;
```

```
    memset(pSrb, 0, sizeof(SRB_ExecSCSICmd));
```

```
    pSrb->SRB_Cmd      = SC_EXEC_SCSI_CMD;
```

```
    pSrb->SRB_Status    = 0xff;
```

```
    pSrb->SRB_HaId      = AdapterID;
```

```
    pSrb->SRB_Flags     = SRB_DIR_SCSI;
```

```
    pSrb->SRB_Target    = TargetID;
```

```
    pSrb->SRB_BufLen    = (DWORD)cbData;
```

```
    pSrb->SRB_BufPointer = pbInq;
```

```
    pSrb->SRB_SenseLen  = SENSE_LEN;
```

```
    pSrb->SRB_CDBLen    = 6;
```

```
    pSrb->SRB_HaStat    = 0xff;
```

```
    pSrb->SRB_TargStat  = 0xff;
```

```
    memcpy(pSrb->CDBByte, Cdb, LEN_ATAPI_PACKET);
```

```
// Send Command
```

```
DWORD ASPI32Status = (*g_fnSendASPI32Command)(pSrb);
```

```
    DWORD timeout = 600;
```

```
/* Wait for pending status */
```

```
while ((pSrb->SRB_Status == SS_PENDING) && (timeout > 0)){
```

```
    Sleep(10);
```

```
    timeout--;
```

```
}
```

```
/* Check Error Code */
```

```

if (pSrb->SRB_Status == SS_COMP) {
    free(pSrb);
    return TRUE;
}
/* Set last device error */
if ((pSrb->SRB_Status==SS_ERR) && (pSrb->SRB_TargStat==STATUS_CHKCOND)) {
}

free(pSrb);
return FALSE;

```

[0053]

An alternative working example.

The various substitution of cilia rye ZESHON spaces, and although any of other kinds of the substitution which has the BCA information which has not been emitted from a hologram and the charged meaning of invention, or combination are included, it is necessary to care about the point which can be used not only in this.

[0054]

Put in as a watermark.

A digital video data can be repeatedly copied without the loss of quality. Therefore, copyright protection of a video data is a problem of the important Digital Video distribution network rather than there was it by analog TV broadcasting. To the video signal which carries information about the sender and receiver of video which were be [the one method of copyright protection / addition of a "watermark]" Carried

[0055]

Therefore, putting in as a watermark makes possible the discernment and tracing of a copy from which a video data differs.

[0056]

Application is the video distribution on the labeling of video broadcasting or the video disk of World Wide Web (WWW) and a paper VUYU system, and videotape. In the

above-mentioned application, a video data is usually stored in a compression format. Thus, a watermark must be embedded in a compression domain. The method for putting as a watermark strongly in the coded MPEG-2 ** video is shown according to an alternative working example. A method is in complexity very lower than the perfect decoding process in front of the following raw material.;

The above-mentioned process is preceded with putting in as a watermark in a pixel domain and the re-encoding case. In spite of changing the MPEG-2 ** existing bitstream selectively, a method avoids a drift by adding a drift compensation signal. Video which the method was mounted and is a data rate of some bytes per second which will be checked if are MPEG-encoded the watermark with a strong result and it can be embedded, and uses and transmits arbitrary binary information firmly.

[0057]

A method is easily applicable to other video code systems like MPEG-1, H.261, and H.263.

[0058]

It exists by the discernment to which digital watermarking satisfies the demand by which the maker and publishing company of multimedia which were digitized are localized and which was convergence-pointed at and was fixed, and attestation of the contents.

[0059]

Since existence of copyright infringement makes the volition over distribution of the number of the work protected under copyright clearly lose, establishment of the response for this kind of copy of work and a differential coefficient copy is dramatically precious. When taking into consideration many formulas of multimedia contents, whether"master, a stereo, NTSC video, an audio tape, or a compact disk, by an individual, the tolerance of quality degradation changes and affects an esthetic value on the business under the contents.

[0060]

Connecting copyright, an ownership right, purchaser information, or some of these combination, data was connected with the contents of a way it is desirable and the contents must pass through damage -- therefore -- distribution which is not permitted next to the contents -- reduction [of a value] || -- business which it does so -- or it is

different. Legal recognition and a posture shift (as a required component of the contents (an audio, video, a game, in addition to this) of commerce top distributed type, it recognizes the importance of digital watermarking), By various authorized personnel engaged in distribution of business of digital contents, development of the parameter for exchange of this kind of contents accepted is furthered.

[0061]

These authorized personnel An artist, an engineer, a studio, an Internet Access Provider, In order to arbitrate actual distribution of the contents to aggregators, an online retailer, an individual, and meant authorized personnel involved in the contents for a publishing company, an agent, an on-line service donor, and many formulas of distribution, authorized personnel who participate in a transfer of funds can be included. Since the characteristic of a digital recording changes widely, it inserts in a known fact, A target to provide a tool for indicating an envelope by which a parameter for protecting and accepting digital watermarking was optimized digitizes a sample (audio, video, virtual reality, in addition to this) stream, and it is value.

The optimization technique indicated below makes quite expensive operation from distribution of the business which is not detected to removal which is not permitted [of digital watermarking containing these parameters] about the gain of the economy which was given absolutely and which protruded. When digital watermarking is taken, optimization technique at least keeps away the use of the tool which expense requires extremely which needs significant damage for a contents signal so that it may be valueless, in order to make commerce top the copy ungranted a permission. The right holder which can probably give the return of the overall economy on which the value of the business of some work makes copyright infringement undetectable as a practical question, and the level of some of deemed "reasonable write down."

The return of the potential economy for the size of an overall commercial scene and the patent pirate of these thing [there] markets-as For example, music, Whenever it assumes that it is the copy of an operating system (Windows 98, in addition to this), video, and the goods of future multimedia of work ungranted a permission, there are a fake 100-dollar bill, LEVI jeans, and GUCCI bag. Any plans to really differentiate how many the "digital marketplace" from how for a physical commercial scene to decide a

response are lack of the trust of the certainty of goods.

For the government which supervises manufacture electric capacity and sale in order to estimate a loss for a physical product, a corporation, and goods from injury **** and copyright infringement. There is no reinforced mechanism again. And it is [for more often educating consumers] legal, and is electronic, and movement with information is included.

[0062]

About the appearance of Digital Video and Digital Video broadcasting, the problem of copyright protection became more important. - The Reason is in the following thing. The duplicate of Digital Video does not become a peculiar reduction of the quality forgiven by analog video as a result. The one method of copyright protection is addition of a "watermark" to with which the thing of video takes out a signal. A watermark is a code of the number embedded at bitstream of Digital Video which identifies a copyright owner typically.

When applied to the individual copy of video, a watermark can be used for discernment of the receiver of each copy again. This processing identifies the copy reproduced unlawfully and makes tracing easy to the receiver to which they happened. In order to put as a watermark in Digital Video, the characteristic that many of watermarks differ is desirable.

A watermark must be embedded by the method that it can be perceived to the viewer of video whether 1st it is faint. As for the 2nd watermark, it is a value (the characteristic) of its business on Digital Video bitstream simultaneously. It must be intentional or must be a thing which it is on the decoding video which does not lower the grade of the quality video was accepted to be to the point which cuts down on having related to as "robustness" considerably and which cannot be taken by the operation which is not intentional. Since it is storable for broadcasting of video of compression form (for example, a "video-on-demand" server), Curve after it is desirable for it to be possible to include a watermark in bitstream which must not decode a signal first, and re-encode and adding [3rd] a watermark.

A digital still picture is put in as a watermark, this can be finished, however the method of using it for the addition restrictions which a video signal shows is not helpful to Digital

Video. Many Digital Video application are "constant bit rate" applications. And it does not put up with the increase in the bit rate of transmitted bitstream.

When transmitted through an avoiding [the unnecessary increase of the bit rate in those application skill that is not restricted to the fixed bit rate] channel, By that which saves the real time decodability of a video signal and which is accumulated and boiled, it has the given bandwidth.

Thus, it is desirable for addition of a watermark not to increase the bit rate of a video signal. The technology currently put in as a watermark of the past for Digital Video is restricted to putting a watermark into the developed video data. However, since a video sequence is often stored in a compression format (this saving memory space), Before a signal is sent, putting a watermark into the signal of the way which identifies each receiver of a signal uniquely needs a signal and adding and recoding [a watermark] decoding.

This arranges clearly serious time and processing burden to the work which carries a video sequence.

[0063]

Hologram.

The information exchange and the transfer on a share transmission channel submit a challenge to the security of the information by feeling. The Internet and Intranet have many local computers, or are two working examples of information transmission channeling of the kind of ***** mutually connected by a large field communications network. Any users follow and are possible for an invader blocking the package of the sensitive data transmitted through a share channel. Especially the Internet is a business forum which progresses quickly. And it has been the main worries about what property-rights information is transmitted for to acquire the information transmitted by the channel.

Using data encryption technology, the transfer on the security of data exchange and a share transmission channel is increased.

Since the data encryption of the simplest form is or "scrambled" into by which data was enciphered(ed), using-a "key" based on algorithmic language for program specific in order to change sequence of package of data including secret information ("plain text")

***** rare ** -- the form which does not have correlation in which it has the secret information ("cryptogram"), and appears. Either which the user who is not permitted and its person have knowledge, and is twisted, a cipher system (e.) g. (encryption algorithm) Or the key || information formed based on a cipher system cannot be decoded easily. An authorized user recovers the information where the data by which scramble was carried out was embedded by using that a "key" that is built based on a cipher system. Therefore, even if it is a case where the user who is not permitted gets the data by which scramble was carried out, the knowledge of both a cipher system and a specific key is required in order to decode the secret information embedded in it.

[0064]

the encryption system of one well-known is a Data Encryption Standard (DES) -- it is constituted by NBS in 1977.

This is a system of the secret key code using confusion and diffusion technology. And the security accepted is allowed to use the key length as 64, so that short. The number of the key of the system of a code based on DES may be about 512 key which has the power of the present calculation. However, when increasing key lengths "cost" significant transmits encoded information and receives, it is delayed. The public secret-key system whose systems of two main codes of a kind are symmetrical system and i. e., a secret-key system, and an asymmetrical system (i. e.).

The system of a DES symmetrical code enciphers the bit block of 64 of the plain text which is using the key length of the bit of 56 typically. The above-mentioned substitution is preceded with the substitution of a text based on the; key whose basic construction which has blocked DES (one round is called) is the single combination of the substitution before the following raw material.

[0065]

Plain texts are 16 through rounds by which the function was coded. And it performs shift operation on a text of a way for which all the bits of substitution, substitution, XOR, and a cryptogram usually depend on all the bits of a plain text, and all the bits of a key, and the subset of a key. During transmission of the single bit of a cryptogram, this means that the whole message can disappear, when decomposing. This is other weak points of a DES-kind block cipher. in round each (subset of a different element from a key) -- K_i --

encryption (so, K1 is applied between the 1st circle.) And Ki is applied between ith round and others. It uses in order to perform.

The algorithmic language for a program of similarity is used in order to decode a cryptogram, however a key is applied to reverse now. And shift operation changes from the left to the right. The speed which can give the complexity of the algorithmic language for a DES program and as which DES is enciphered is a function of the processor characteristic for hardware and software enforcement. For example, it enciphers, and the can in which Digital Equipment Corporation makes a hardware DES chip is a rate of 1 GBit/sec per second, or a DES block of 15,600,000, and decodes it. Software enforcement is a low speed more.;

For example, the mainframe of IBM 3090 can encipher the DES block of 32,000 per second.

[0066]

The typical software implementation performance for a microcomputer is listed by the table 1 in Description of this application.

The microprocessor Bus width DES Blocks. 8088 of Processor Speed some (per(bit (MHz))/sec) 4.7 8 37,068,000 7.6 16 90,080,286 6.0 161 and 10068020 16.0 32. 3 and 50068030 16.0 32 3 and 90080280 25.0 16 5 and 00068030 50.0 32 9 and 60068040 25.0 32 16 and 00068040 40.0 32 23 and 20080486. 33.0 32 Encryption Rates of one TABLE which is using 40,600.

Other conventional technology ciphering systems are RSA Public Key Crypto systems obtained from the RSA data security of California. The public key which enciphers a plain text and a secret key in order that RSA may decode :cryptogram which is a system of the asymmetric cipher with which two different keys are used.

The hardware features of RSA are more nearly usually than the hardware implementation of DES low speeds about 1,000 to 10,000 times.

Generally in software enforcement, RSA is a low speed from DES about 100 times.

These numbers improve, however the computing speed of RSA is difficult in order to approach the speed of the system of a symmetrical code, so that technology may progress. Therefore, generally RSA is not seen as thing substitution for DES or what kind of other bulk encryption algorithms which were fixed.

[0067]

It is often used for the safe key exchange without the conventional exchange with secret Instead and RSA. So, a long message is enciphered by DES.

[0068]

A message is sent out by the DES key enciphered through the formation of a RSA public key encryption. The encryption system of many of other conventional technologies is change of DES-kind encryption. Usually, since DES which it can give dramatically the state where calculation processors progressed, and is suspected did not become any longer to the brute force supply attack if it was safe, substitution was actively sought from the 1980s of the second half. These needs are answered, some substitution is developed and it is thought by DES about the levels of security provided that it is competitive.

The working example of these systems contains the following cipher system.

[0069]

(1) Triple DES.

This is change of DES as which a plain text is continuously enciphered by three different keys with the algorithmic language for a DES program.

This can admit being an equivalent of increasing the size of the DES key in the bit of 112 in common. Triple encryption of a plain text is the present method of dealing with the anxiety about the security of DES however, this is a price of the throughput rate for enciphering and decoding a message, and it is clarified.

[0070]

(2) REDOC (it has a byte (160-bit key) of 20.) And algorithmic language for a block program which acts on the bit block of 80.

All the operations (i. e) That the last substitution in the start implements it efficiently in software in software makes it on substitution, substitution, and the thing byte of important XOR which is performed more effective than difficult DES. In addition, this algorithmic language for a program is usually dramatically guaranteed to the bit key of 160.

[0071]

(3) Khufu is a bit block code (it needs a 512-bit key) of 64 proposed recently, and leaves

a number of a circle unvented system (16, 24, or 32). [which] It seems that security of this algorithmic language for a program is very high for a large key of a circle, and a number made to foam potentially. However, increasing a number of a circle has a disadvantageous point which makes late a rate as which data can be enciphered.

[0072]

(4) An idea is a 64-bit block cipher using a bit key of 128. It usually uses sup 16 of three basic motion, XOR, and two addition modulus, and sup 16 of two multiplication modulus. Algorithmic language for a program acts on a 16-bit sub-block typically. And it validates it even about 16 bit processors. the present software enforcement is comparable as DES -- it is almost fixing. In view of a limit and a disadvantageous point of an encryption system of various conventional technologies, an inventor of this invention developed a system of a new code based on a phase modulation and a corresponding implementation interface of optics between a user's computer and a network.

According to this invention, either of transmission on these methods and shared network (for example, Internet) which enciphering the information embedded before digitization at the bit stream of a number can exchange working examples.

[0073]

A holographic decryptor can be treated by the authorized user at the side received according to a suitable working example, in order to decode information. One of many advantages of this invention is the potential which finishes the high rate of encryption/decipherment (e.). g. (larger than one Gbit/s) To the optical fiber network (e.) of height data speed It is more common than g. (larger than Gbit/s of 2.4). In one of some suitable working examples of this invention, the package of digital data is first pushed on a carrier optical beam. This is carried out by using the optical spatial modulation machine of a two-dimension.

The wave-like phase of data bearing optics can be distorted after that by phase scrambling media. Next, the waveform of the data bearing optics which has the phase which was able to be distorted is used in order to form the hologram of optics which has a reference beam. A hologram is changed into the electronic signal sent to the destination of the digital form on a share transmission channel from it.

A hologram is expressed as a destination by which data by which scramble was carried out is received in an optical spatial modulation machine. And conjugate reproduction of that is performed in order to generate conjugate of a data bearing signal waveform which has the phase which was able to be distorted. Holographic media which suit in using in order that media showing phase-scrambling may return a phase and embedded data are searched from a waveform of conjugate regenerated light study by using light detector arrangement like CCD arrangement. One mode of this invention is finishing a cryptographic key of optics which is larger than six 10sup keys which raise security, and is going up.

[0074]

This is a difficult implementation for many conventional technology systems. According to this invention, this kind with a large cryptographic key of number is possible because of analog technology of peculiar optics. It is another mode of this invention to fix, to enciphering and to guarantee to decode in a large cryptographic key which cannot be probably gained by a system of conventional technology.

A suitable working example performs this by using reproduction of high-speed optics of a data bearing hologram of parallel processing of an optical data processing device, and capability. It is another mode of this invention by enciphering(ing) based on an analog, not fitting a pattern and treating decoding in digital data to increase the privacy of an encryption plan.

Especially this aspect is advantageous, in view of the present lack of the foundation on theory for decoding encryption based on an analog. According to this invention, most encryption based on algorithmic-language technology for a program by which a brute force supply attack was delivered is impossible for invading a ciphering system. It is another mode of this invention to encipher digital data and to use phase information on optics of a nonobvious method of decoding. It is still another side. Digital data is delicate and being damaged easily is possible between processes used in order to identify goods typically. And it includes sculpture, Stamping, or marking. Digital data is closer to the upper surface of CD than it is in the bottom as above-mentioned. Although the upper surface of CD includes graphic information applied by silk screening which usually protects digital data selectively from damage, a ****(ed) layer is thinner than the

bottom of CD which comprises a clear material, and weaker.

Thus, there are big needs rather than protecting the upper surface of CD and digital data near it from physical damage like scratching.

[0075]

Sculpture may be used in order to identify goods. Since sculpture was often tried by the upper surface of CD, carving CD which has discernment marking includes a problem, and this kind of sculpture may bar digital data to the next of that. digital data is not damaged -- it being a place and, Even if it is a case where sculpture is tried by the bottom of CD, data can still be damaged during sculpture for a pressure which needs to be arranged on heat which can be produced from CD grasping it of a position, and this kind of sculpture.

In addition, in especially a high volume situation, the time which was a comparatively labor-intensive and expensive process to sculpture does not need to have desirable it.

[0076]

Thus, retail trade took into consideration the method which does not invade from something else of discernment (for example). And it painted. Paint also fails in providing the effective means of discernment or security for the peculiar non-reliability of the process which required labor, required cost, and a person can give ***** which can reproduce paint of this kind. Since the damage over digital data had to be avoided, the paint can arrange other problems.

[0077]

Identifying a warehoused item, another option to gain is use of the usual adhesive sticker.

[0078]

This kind of sticker can be taken, and since [which reattached(ed) interfering in what kind of sticker in the item without the means shown clearly which trying to be the same] it is plain, as for this kind of sticker, the effective means of discernment is not provided.

In addition, although this kind of sticker is indicated in Description of this application, difficulty may be sufficient as what is manually applied to CD under the nonexistence of a spray machine workstation [like] (from [when the centering also of what kind of sticker must be correctly carried out to CD]).

In addition, this kind of sticker may be simple to reproduce.

[0079]

The magnetism type EAS system is widely used, in order to forbid theft of goods (for example, clothing, a book, a cassette, and a compact disk). From a protected area (for example, a library or a retail store), an electronic paper surveillance (EAS) system is often used in order to prevent removal which is not permitted [of a paper].

[0080]

The question zone or passage in which it is located [near / where an EAS system usually contains the following / :protected area and the exit of a marker, or near the tag] was attached to the paper protected. EAS systems were a closed circuit of a magnetic base, RF, microwave, and technology with many magnetoelectric generator-restrictions. An EAS system is designed, when being exposed to the inquiry signal of a passage regardless of the specific technology of being related so that some response with a characteristic tag may be produced.

[0081]

Detection of this characteristic response shows existence of the tag which had the sensitivity of a passage raised.

[0082]

That an EAS system locks from it an exit gate (removal for which the paper was permitted from the protected area is allowed others) begins some appropriate security operation (for example, emit audible alarm) which attaches a tag. and it consists of i. e. which is deactivatable so that direction reversal is [that justification is eternally possible and] possible, and two -- status tag frequent use is carried out.

[0083]

Also in the general use for theft protection of the media on which the EAS marker was recorded on a compact disk and optics like the thing of CD-ROM, A marker is adapted for the attachment to the package which generally contains the new compact disk, it having been insufficiently [because of a direct attachment] suitable for the compact disk, and for a library, In order to adapt the needs of a customer and a customer, other organizations which the effective cross section inventory control which attaches a check to a compact disk repeatedly does so like that the EAS marker is attached to a compact

disk.

[0084]

The marker of some for the direct attachment to a compact disk was developed. One validity "DCD-1" from Minnesota Mining(s) and Manufacturing(s) a company and St. Paul (Minnesota) is the single marker strip and security overlay which are connected to a compact disk. However, this marker carries out balance of the machine of a disk conversely. And it can affect the operation of the media playback equipment recorded on other optics which needs to hang mechanically and to be united for operation with conversely suitable a modem high speed CD-ROM drive, a CD player, and media.

[0085]

Other product (CD-guard)" (it obtains for a long time from Knogo North America (Hauppauge)) islands (N. Y.) wear the balance fault of the same machine.

The embedded information storage disc of the optics which generally comprises the annular status EAS marker which consists of two is indicated to United States patent No.5,347,508 coassigned(ed).

[0086]

Other media.

The principle of this invention needs to care about a point applicable to other kinds of media over the electronic storage about which it argues previously. In that the information signal as a recording medium (called an optical disc below) like the disk which is moving is recorded and reproduced, and it is any, or a laser beam is marketing there now, and there, CD-ROM on which the audio data recorded and computer data are recorded, What is called a compact disk that has a recordable optical disc which the writing and information signal which the once optical disc which may have an information signal recorded once can be played, can be recorded, and can be eliminated.

[0087]

The read-only which a compact disk or an optical disc like CD-ROM has pursues about whether a phase pit is spirally formed by which irregular pattern (i. e.) by the same mind on the basis of the recorded information signal formed by one field of that.

Specifically a read-only optical disc, A disc stand board which is made of polycarbonate

or a transparent synthetic resin like PMMA (poly methyl methacrylate), It comprises a protection layer formed in order to protect a reflection film and a reflection film which are made of metal like aluminum or Au formed since a phase pit formed by one field of a disc stand board is covered and to cover a reflection film.

[0088]

When an information signal is played from a read-only optical disc, with an object lens, a laser beam from a laser light source is brought together in one point, and is compared with a read-only optical disc from the disc stand board side.

Reflected-light flux adjusted by phase pit on an optical disc was detected by a photodetector, and was changed into a detection signal which has a signal level corresponding to luminosity of reflected-light flux, for example. And a signal in which an information signal recorded on a read-only optical disc was played by it was able to be obtained.

[0089]

A product (optical disc) of mass production out of which a read-only optical disc has come to a commercial scene inexpensive can be provided, and it is not suitable for a product of a small demand. For this end, optical disc products of a demand with a small optical disc are ready. And once a user can be easily provided with various data, it will write in. Once it obtains an optical disc as writing there, writing of a sound recording system or an intermediary's optical disc which is using physical chemicals Paints, An optical disc of the single write-in Mika intermediary of a layer hole who has formed a sound recording system, Change in an optical disc of the write-in Mika intermediary of a multilayer hole which has formed a sound recording system, an optical disc of the write-in Mika intermediary of a phase change sound recording system, and an optical disc of the write-in Mika intermediary of a bubble homing system.

It is compared with a disk from the disc stand board side by playback under the state [with the same method as a read-only optical disc] where, as for the laser beam (have weak playback laser output light) from a laser light source, a laser beam is brought together in one point with an object lens. And the reflected-light flux adjusted by the pit recorded before is detected by a photodetector. And a detection signal is changed into the detection signal which has a signal level corresponding to the luminosity of a

reflected-light bundle. The signal in which the information signal which writes in and is recorded on a once optical disc by it was played is obtained.

[0090]

When an optical disc information signal is recorded on the above-mentioned writing, the laser beam (have strong record laser output light) from a laser light source is compared with an optical disc from the disc stand board side under the state where a laser beam is brought together in one point with an object lens. And the power of a laser beam is turned on and off by answering an information signal and adjusting a laser beam. And the pit (the same pit as them which are recorded on a substantially read-only optical disc) which is in agreement with an information signal is formed along the recording track of an optical disc. The hole of one layer hole which has formed the sound recording system is a field illuminated, and, specifically, is formed by the strong laser beam in a recording track. And this hole is recorded as a pit. The thing e for which a hole is formed by the strong laser beam in the field illuminated in a recording track in the case of the multilayer hole which has formed the sound recording system. g. -- the hole on the film of the 1st layer and the 1st layer is recorded as a pit.

[0091]

In the case of a phase change sound recording system, some recording tracks illuminated are changed by the strong laser beam from an amorphous state to a crystal state. And the portion changed into the crystal state is recorded as a pit. In the case of a bubble-forming sound recording system, the record layer of the portion illuminated by the strong laser beam in a recording track is raised. And the raised portion is recorded as a pit.

[0092]

In particular, in optical disc writing, a guide rail is formed in order to allow the follow-up control of a laser beam (pre groove portion). The end face which has opposed the pre groove is formed as the sine wave form (generally called unstable motion form) which has the amplitude beforehand defined along the track, and a cycle defined beforehand. When this unstable motion form is detected on optics by the laser beam, it is possible to obtain the unstable motion signal which is serving as absolute time information. An unstable motion signal is used in order to control the system of record and playback

equipment. And especially the hour entry for record is cratered in an optical disc. e by which an unstable motion signal is used for the servo controls which are rotated and the optical disc currently operated means. g. (spindle motor). According to the servo control function, the revolving speed of a spindle motor is controlled so that the cycle of an unstable motion signal becomes a constant.

[0093]

If the pit of an optical disc is generally so in the groove which is recording the system of 10 recorded on a pre groove portion, the above will once be written in. When the information data which is to be recorded on the optical disc of writing or an intermediary is recorded, by detecting on optics the unstable motion form formed by the pre groove portion, based on the cycle of the obtained unstable motion signal, a target position takes a synchronization and is searched. When a target position is detected, the above-mentioned information data which is to write in and to be recorded on a once optical disc is recorded on the target position according to the format defined beforehand.

[0094]

On the other hand, a target position is searched by reproduction as above-mentioned. When a target position is detected, based on the frame alignment signal inserted in the data which writes in and is recorded on a once optical disc, 2 K bytes of data is read sequentially. And record data is reproduced by it.

[0095]

If the playback principle as an optical disc is once the above was the same, it loaded, even when it wrote in and there was a once optical disc from a read-only optical disc and writing to up to the playback equipment which plays an information signal from a read-only optical disc. And an optical disc with a read-only optical disc is fair, and if it could be played, data was once recorded on writing.

[0096]

In addition, it writes in and a once optical disc has a function which can be produced easily by the apparatus in which many optical discs are comparatively simple. There is a risk of the writing which an optical disc once for this Reason does so being copied unlawfully (invalid copy). There is a computer system linked to the input/output terminal besides one of the personal computer which the playback equipment for playing an

information signal from a read-only optical disc specifically (first) uses by an end user. For example, and the information signal closed circuit was recorded, in order to play, it wrote in, and the external storage from a once optical disc is connected to other outer input/output terminals. And the recorded data which was read-out from the read-only optical disc by the optical disc reproducer by an external storage is completely written in in writing. And the patent pirate version of a read-only optical disc is produced by it.

[0097]

In this case, when a read-only optical disc is CD-ROM on which computer data (a computer program should be included) are recorded, the patent pirate version of game software can arise easily. When it is the compact disk (CD) which the place where music information has a readonly optical disc recorded, it enables it to produce the patent pirate version of a compact disk easily.

[0098]

Since a computer program is protected under copyright, according to copyright. The material protected removes them which were made by the registered user who accepted - regular user to copy, i. e., and a software license agreement (there are a software license agreement} and an illegal immigrant for the backup for a hard disk, or a copy.).

[0099]

Once the copy for copying thoroughly has an invalid optical disc for the purpose of operation of concession of distribution again, the data on CD-ROM which is the copyright material to writing was recorded, and this kind for obtaining unfair profits of invalid operation must be prevented.

[0100]

The act which makes a company or the user of CAI (CAI) to the free distribution for people whose usual user is not regular is regarde so that seriously.

[0101]

Now, proposed various methods for the copy protection by which many were reduced are in execution. On the other hand, software (program etc.) called"copytool"used at the time of taking a copy protection is the present marketing. Any methods of the others which the conscience of a user's self is insufficient and prevent invalid profiling of record

data do not have the present.

[0102]

The invalid copy between recording media like a disk which carried out slag ***** can be effectively protected even to a copy tool. And it is object of this invention to provide the data recording method with which the material (record data) protected by copyright recorded on a recording medium like a disk can be protected.

[0103]

An image is updated at a rapid rate and the user of a computer system can act on a movie, video, or both the both [an image and] that were displayed by interactive production. or [that the purpose of these production educates the user who is to show useful information] -- or it delights. In order that the character or object of a drama may react to user operation, the greatest target of interactive technology is making user sensibility, for example, as if they were acting on the image on a screen, and mutual. A user's operation can affect other images on a character, an object, or a display screen, and can change the course of a plot.

[0104]

One method of providing an advanced interaction is making the computer thoroughly generated by production. This means that a computer calculates the orientation of a figure, and the object on a screen in the world of three dimensions by giving a cubic effect to it, and displays them on it. However, an image (especially human being's figure) in the resolution which is approaching the television quality of real time with video or a film refresh rate thoroughly which is valid is calculated, Since the count ability to draw has exceeded the present technology for the system taken out to the mass market, this method is restricted by today's technology.

[0105]

A different method is to perform the image or frame (back) which video, the film, or the generated image is to record a turn attachment ** computer, and has been recorded beforehand at high speed. It seems that this finishes the resolution of television or a better thing, and it is fully valid in order to build the level of credibility equivalent to television.

[0106]

However, video or the determination switch of animation sequences, In this method with the effect restricted to a small number of different "paths" of which has an image sequence in which the quantity to which the interactive service in which a user has production from the capability of the user who has on a tale was restricted dramatically branches recorded, it set beforehand. What kind of sequence thing use as "interactive video of the image performed in the back here widely [in order that it may be left and that a user can act on an image and mutual may finish animation] currently recorded beforehand. ", Interactive video production uses the compact disk read-only memory (CD-ROM) which searches an image during a playback of the disk and CD-ROM which store an image typically.

A CD-ROM disc stores information in the concentric spiral on an optical medium. And is "read" or was back served by CD ROM drive which uses a "read head" with. the large problem which has interactive production of a CD-ROM base is the break of the continuity for delay -- almost -- the 2.5th -- or required in order to decide the position of Blanche Pass of a different request from the present path after which the read head of the drive has run. I hear that a user is strictly restricted in the number and kind of method that it can act on video and mutual, and other problems have interactive television production of a CD-ROM base.

[0107]

When accessing a different video path ("access time" or "seek time"), it depends for length on the position of a different video path about arrangement of the present of the read head of a CD-ROM drive. In order to access the given video sequence, a computer controller, It directs to access a new sequence by investigating the position of the sequence of an index and moving a read head to starting the new sequence on a disk to a CD-ROM drive. according to a mechanical mechanism, since a read head is moved, it accesses it at a video path which carries out repositioning of the read head at the new position of a track and which is comparatively alike and is different in the long time -- it is rich and makes.

[0108]

Cash is used for conventional technology in order to improve performance which accesses data of CD-ROM. In a memory of a processor and a computer system

controlled by software, a hard disk, or other storage top skill, the cache can do a certain thing in a CD-ROM drive in an interface card during a drive. However, such cash only provides a fringe improvement of access time related since video produces comparatively few sizes of cash as a cause as compared with a data rate of information which has been taken in CD-ROM. When a different path branches, since data with new them was not included, information on cash is not usually useful. It loaded with cash required be "purged" and by new information.

[0109]

since a current CD-ROM drive provides sufficient interactive service of interactive television production, while it is not suitable, hundreds of thousands -- although -- since it was already sold to consumers, they display a huge installed base. Therefore, a system which eliminates access time of CD-ROM formed the foundation of an interactive television without it being required to require correction of the existing CD-ROM drive.

[0110]

Conventionally, in there where what is called LD (laser disc) and what is called CD (compact disk) are generalized as an optical disc, information, including video information, audio information, etc., is recorded. Video information and a voice information are recorded about LD etc. with the hour entry which shows the time when each information is to be reproduced about a reproduction start position. And each LD has it as a standard position.

Thus, it extracts from the recorded music of plurality other than the overall standard playback which plays the recorded information on a command of record, The playback it is heard that only desirable music is and the playback it is heard that the music on which the random command was recorded is, for example, various special playbacks like [in the case of CD] others, are possible.

[0111]

according to LD etc. which were mentioned above, there is a problem -- however, there -- what is called -- it being interactive and harlequin reproduction, or [whether there can be any branched effect about video, audio information, or sound-outputted as which any whose audience is plurality are displayed, or that an audience looks at it for them in any

] -- or it is not possible in the ability to be chosen as hearing it.

[0112]

That is, as for, for example, choosing one of languages as being used for a subtitle (caption) in giving an audience to the movie of the foreign country on LD, having displayed on the screen is an impossible thing (e.). g. -- one and the text of the subtitle of selection Japanese -- subtitle ||language -- in order that the subtitle of that may not choose one of musical sound sounds and may display in preparation for the case where the selected language or the audience to music who gives records on CD (e.) g. -- one of the lyrical poems of selection English, and a Japanese lyrical poem.

[0113]

On the other hand, the various proposals and development as an optical disc which will be improved by about ten hours not to change the size of an optical disc as compared with the conventional CD which the storage capacity mentioned above are made about DVD. When two or more subtitles of various languages or two or more voice sounds of various languages are recorded about this DVD, the reproduction which was mentioned above and which it is interactive and is various colors is [as seeming / an audience / to choose one of them] possible.

[0114]

However, when recorded on DVD which the music of the audio of various languages, a voice sound, or many models mentioned above, the amount of information of a voice information or music information becomes immense. When information is not recorded in appropriate record form at this time, the process for searching the voice information reproduced and others becomes complicated. And the case interrupted in the reproductive center for time to need for a voice sound or a music sound, and others to search a voice information and others can happen at the time of playback. And it is a problem.

[0115]

While various working examples are describing above, although they do not restrict to this example, they must be understood to have been shown, for example. Thus, therefore, a suitable minor axis and a useful range of an working example must be restricted to neither of the above-mentioned typical working example, and must be

defined as it only according to following claims and those equivalents.

[Brief Description of the Drawings]

[Drawing 1]

According to this invention, drawing 1 is an overall block diagram of the method of following electronic media.

[Drawing 2]

Drawing 2 is a detailed block diagram of the method of following electronic media according to a suitable working example.

[Drawing 3]

Drawing 3 is a block diagram of the working example of the hardware related to one working example of this invention.

[Drawing 4]

Drawing 4 is expression of the conventional life cycle of an electronic circuit storage, and the picture of comparison of the electronic storage of this invention.

[Drawing 5]

Drawing 5 is a block diagram of the user experience according to a suitable working example.

[Drawing 6]

Operation for the electronic commerce transaction to which drawing 6 follows the suitable working example which is a flow chart, and which carries out thing redirection.

[Drawing 7 A]

Drawing 7 A is a flow chart which has indicated the update for the detailed logic relevant to user connection, and DVD processing according to a suitable working example.

[Drawing 7 B]

Drawing 7 B is a flow chart which has indicated the update for the detailed logic relevant to user connection, and DVD processing according to a suitable working example.

[Drawing 8]

Drawing 8 shows the logic which shows the display of specific advertisement information based on the retailer/distributor which uses BCA information according to a suitable working example for intellectual processing.

[Drawing 9]

Drawing 9 is a flow chart which shows the display of specific advertisement information based on the genre/kind of DVD which uses BCA information according to a suitable working example for intellectual processing.;

[Drawing 10]

Drawing 10 is a flow chart of the download operation for downloading and updating the retailer-specific information of DVD which uses BCA information according to a suitable working example for intellectual processing.

[Drawing 11]

Drawing 11 is a flow chart of the download operation for downloading and updating the DVD titlespecific information which uses BCA information according to a suitable working example for intellectual processing.;

[Drawing 12]

Drawing 12 is a flow chart of the made video presentation operation which uses BCA information according to a suitable working example for intellectual processing.;

[Drawing 13]

Drawing 13 is a flow chart of the made video presentation operation which uses BCA information according to a suitable working example for intellectual processing.;

[Drawing 14]

Drawing 14 is a flow chart of the logic relevant to the display operation of the made multimedia which uses BCA information according to a suitable working example for intellectual processing.;

[Drawing 15]

Drawing 15 is a flow chart of the security operation for restricting access to the specific website which uses BCA information according to a suitable working example for intellectual processing.;

[Drawing 16]

Drawing 16 is a flow chart of the unlocking operation for the electronic commerce transaction which uses BCA information according to a suitable working example for intellectual processing.;

[Drawing 17]

Drawing 17 is a flow chart of the unlocking operation for the electronic commerce

transaction which uses BCA information according to a suitable working example for intellectual processing.;

[Drawing 18]

Drawing 18 is a flow chart of the misuse of the DVD utilizing BCA information for the intellectual processing according to the logging operation and the suitable working example for pursuing copyright infringement.;

[Drawing 19]

Operation for the support transaction for the intellectual processing to which drawing 19 follows the suitable working example which is a flow chart, and which carries out thing redirection;

[Drawing 20]

Drawing 20 is a flow chart of the display operation for the support transaction for the intellectual processing according to a suitable working example.;

[Drawing 21]

Drawing 21 is a flow chart of support tailing which uses BCA according to a suitable working example for intellectual processing.;

[Drawing 22]

Operation for the support transaction for the intellectual processing to which drawing 22 follows the suitable working example which is a flow chart, and which carries out thing redirection;

[Drawing 23]

Drawing 23 is a flow chart of the application information which uses BCA information according to the broadcasting operation, the base material, and the suitable working example for downloading update for intellectual processing.

[Explanations of letters or numerals]

22 -- Electronic storage medium,

[Claim(s)]

[Claim 1]How to follow distribution of the contents electronically, and the above have incorporated an electronic storage which has followed an identifier to up to a (a) electronic storage containing a step.;

(b) Detecting tracking information with a package connected by computer.; Tracking information is transmitted to the (c) server computer.;

and determination using logic of a server computer sent to the (d) computer -- appropriate support information.

[Claim 2]In a method and there where distribution electronically explained in full detail in Claim 1 of the contents is followed, a server computer performs table search, in order to determine a retailer who sold a package.

[Claim 3]A server computer is connected with a computer which passed through a network in a method and there where distribution electronically explained in full detail in Claim 1 of the contents is followed.

[Claim 4]Server computer transmit information which uses Internet Protocol in a method and there where distribution electronically explained in full detail in Claim 1 of the contents is followed.

[Claim 5]In a method and there where distribution electronically explained in full detail in Claim 1 of the contents is followed, a transaction is written in a database which commemorates processing.

[Claim 6]A base material passed to a server in a method and there where distribution electronically explained in full detail in Claim 1 of the contents is followed in order to identify support information with appropriate information.

[Claim 7]Equipment for following distribution of the contents electronically and the above are realized.;

(a) An optical disc electronic circuit storage which has a burst cut to a field.;

And a code of a number stored in the (b) burst cut a field.;

(c) A thing of a number codes representation of an identifier of the contents on an optical disc electronic circuit storage.;

(d) Equipment containing logic which detects tracking information with an electronic storage was connected by computer.; Equipment containing logic which transmits tracking information to the (e) server computer;

And equipment included in a server computer to which appropriate support information for which it uses logic of a server computer for (f) logic is made to face sends to a computer.

[Claim 8]

In equipment for following distribution electronically explained in full detail in Claim 7 of the contents, and there, a server computer performs table search, in order to determine a retailer who sold a package.

[Claim 9]A server computer is connected with a computer which passed through a network in equipment for following distribution electronically explained in full detail in Claim 7 of the contents, and there.

[Claim 10]Server computer transmit information which uses Internet Protocol in equipment for following distribution electronically explained in full detail in Claim 7 of the contents, and there.

[Claim 11]In equipment for following distribution electronically explained in full detail in Claim 7 of the contents, and there, a transaction is written in a database which commemorates processing.

[Claim 12]A program materialized by computer which media in which reading for identifying to use of an electronic storage which has an identifier, and providing a response is possible incorporated on it, By a user, a code segment which reads an identifier of an electronic storage in program:(a) existence containing the following inputted into a computer.;

(b) A code segment which detects tracking information with a package was connected by computer.; A code which transmits (c) tracking information for a server computer is segmented.; And a code is segmented in a server computer which determines appropriate support information using logic of a server computer transmitted to the (d) computer.

[Claim 13]As explained in full detail in Claim 12, it identifies to use of an electronic storage which has an identifier incorporated on it, and in a program for providing a response, and there, a server computer performs table search, in order to determine a retailer who sold a package.

[Claim 14]As explained in full detail in Claim 12, it identifies to use of an electronic storage which has an identifier incorporated on it, and a server computer is connected with a computer which passed through a network in a program for providing a response, and there.

[Claim 15]In a program for identifying to use of an electronic storage which has an identifier incorporated on it, as explained in full detail in Claim 12, and providing a response, and there, A server computer newcomer person base material of permitted information which uses a transaction from a server computer.

[Claim 16]As explained in full detail in Claim 12, it identifies to use of an electronic storage which has an identifier incorporated on it, and in a program for providing a response, and there, a transaction is written in a database which commemorates processing.

[Claim 17]Identifying to use of an electronic storage which has an identifier incorporated on it, as explained in full detail in Claim 12, a program for providing a response and the above contain a code segment which receives support information which is moving from a server computer.

[Claim 18]Identifying to use of an electronic storage which has an identifier incorporated on it, as explained in full detail in Claim 17, a program for providing a response and the above contain a code segment which transmits a base material standard to a server computer.

[Claim 19]Identifying to use of an electronic storage which has an identifier incorporated on it, as explained in full detail in Claim 12, a program for providing a response and the above contain a code segment which puts up sealing of base material charges paid separately of video.

User Information and a suitable player to a database.

(19) 日本国特許庁 (J P)

(12) 公表特許公報 (A)

(11) 特許出願公表番号
特表2002-542566
(P2002-542566A)

(43) 公表日 平成14年12月10日 (2002. 12. 10)

(51) Int.Cl. ⁷	識別記号	F I	テーマコード* (参考)
G 1 1 B 20/10		G 1 1 B 20/10	D 5 B 0 1 7
// G 0 6 F 12/14	3 2 0	G 0 6 F 12/14	3 2 0 F 5 C 0 5 2
H 0 4 N 5/85		H 0 4 N 5/85	Z 5 D 0 4 4

審査請求 未請求 予備審査請求 有 (全 203 頁)

(21) 出願番号 特願2000-612946(P2000-612946)
(86) (22) 出願日 平成12年4月18日 (2000. 4. 18)
(85) 翻訳文提出日 平成13年10月22日 (2001. 10. 22)
(86) 国際出願番号 P C T / U S 0 0 / 1 0 4 0 1
(87) 国際公開番号 W O 0 0 / 6 3 9 0 3
(87) 国際公開日 平成12年10月26日 (2000. 10. 26)
(31) 優先権主張番号 0 9 / 2 9 6 , 2 0 2
(32) 優先日 平成11年4月21日 (1999. 4. 21)
(33) 優先権主張国 米国 (U S)

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Fターム(参考) 5B017 AA06 BB09 CA09
5C052 AA02
5D044 AB05 BC04 CC04 DE17 DE50
HL02 HL11

(54) 【発明の名称】 レーザー中心媒体の電子的内容物に基づき情報の対話式ネットワーク支援のための製造のシステム、方法及び商品

(57) 【要約】

【課題】 レーザー中心媒体の電子的コンテンツに基づく情報の相互に作用する、ネットワークサポートのためのシステム、方法及び製造物

【解決手段】 第1に、識別子を追っている電子的記憶媒体は、電子的記憶媒体の上へ組み入れられて、データベースに格納される。次に、電子的記憶媒体が格納されるパッケージの上へ、識別子を追っているパッケージはある。パッケージ上のトラッキング識別子を使用しているさまざまな実体の間で送られると共に、電子的記憶媒体はそれから追われる。さらに、電子的記憶媒体は、さまざまな広告をもつ余裕があるために電子的記憶媒体、セキュリティ、支持体または小売に関連した機能上のトラッキング識別子を使用して識別されることができる。システムは、BCA情報を知的処理のために利用しているDVDの小売業者-特定情報をダウンロードして、アップデートするためのロジックを含む。ユーザーがDVDアプリケーション・アクティブ式を有するインターネットに連結するときに、ロジックは動いているインターネット接続を検出して、BCA情報を読みとって、サーバ

Step 2: Process Users Request

